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Issues Raised Regarding Effects on  
Specific Industries

1. Issue: Should gasoline be included as a Table 3 contaminant -- requiring Best Commercially Available Control Technology?

Comment: Some comments suggested gasoline should not be included as a Table 3 contaminant. At least one commenter advocated placing gasoline in Table 1 -- the acute hazardous emission list. This commenter argued that since the Department based the second and third lists on the National Toxicology Program and International Agency for Research on Cancer listings, and because neither organization currently lists gasoline, gasoline belongs in the list of acute toxics.

Response: The Department has removed gasoline from consideration under the proposed rule.

2. Issue: Will the Department's proposed rule attempt to impose controls on gasoline, which would result in a redundant requirement if Stage 2 or onboard gasoline vapor controls are eventually enacted by the federal government?

Comment: Certain commenters have suggested that controls on gasoline, within the context of the proposed rule, would be premature and potentially lead to unnecessary costs, given that consideration is being given at the federal level to imposition of Stage 2 and onboard gasoline vapor controls.

Response: Since the Department has removed gasoline as a compound from consideration under the proposed rule, this concern is moot. However, gasoline does contain hazardous air contaminants in varying amounts.

The rule has been modified to limit benzene emissions to 300 pounds per year. Based on a 1.5% average benzene content in gasoline, the Department provided an exemption for gasoline dispensing facilities with annual throughputs less than 1,000,000 gallons per year or 1,500,000 gallons per year if the facility is equipped with Stage I control devices.

3. Issue: Is the Department attempting to craft an "enabling provision" in NR 445.05 which would give it the authority to promulgate rules requiring Stage 2 vapor recovery at gasoline marketing sources?

Comment: One commenter was concerned the Department was attempting to build a provision (in NR 445.05) into the rule enabling it to require Stage 2 controls.

Response: Even though this provision has been removed from the rule, the reason for the referenced language in the rule -- NR 445.05 -- was only to inform sources and other groups of the timing of possible promulgation of Stage 2 control requirements. In fact, the Department already has explicit statutory authority to require Stage 2 controls under subsections 144.31(1)(a), (e), and (f), Wisconsin Statutes..

4. Issue: Do control devices or substitute substances for ethylene oxide exist?

Comment: Some commenters claimed there is no device available to control ethylene oxide emissions. They also claimed no substitute exists for the substance. Ethylene oxide emissions emanate from hospital sterilizers.

Response: At least two manufacturers (one in Minnesota and one in Connecticut) design, build and sell control devices specifically designed for hospital sterilizers. Thus, ethylene oxide emissions can be controlled with existing commercially available control technology.

The Department has sent this information to the Wisconsin Hospital Association.

5. Issue: Should metal fumes be covered by the rule?

Comment: One commenter indicated that the nature of metal fumes prevents them from existing more than a few feet from their source. He argued that this characteristic prevents metal fumes from affecting the general population because no ambient metal fumes exist -- only workers close to fume sources can be affected -- and, therefore, metal fumes should not be included in the rule.

Response: After discussions with the Wisconsin Industrial Air Coalition, Air Toxics Negotiating Committee, the Department agreed that all fumes, because of their ephemeral state, would not be emitted to the ambient air and therefore, removed them from consideration within this rule.

6. Issue: Will the Department specify the Lowest Achievable Emission Rate (LAER) for the combustion of PCBs in waste oil.

Comment: Two commenters suggested that the Department should clearly define LAER for the combustion of PCBs in waste oil. They further suggested that LAER be defined by the operation and design criteria, found in the DNR Hazardous Waste Section PCB Guidance Documents, for boilers which burn liquids containing PCBs in concentrations of less than 50 ppm.

Response: The Department will define LAER for the combustion of liquids containing PCBs as a part of its development of generic LAER guidelines.

7. Issue: Should nickel be removed from Table 2 (known human carcinogen list)?

Comment: Comment was received suggesting that nickel be removed, per se, from Table 2, arguing there was a lack of evidence that the metal form of nickel could be classed as either a known or suspected human carcinogen.

Response: The rule was modified by the Department to remain consistent with the National Toxicology Program. Nickel subsulfide was listed as a known human carcinogen and other nickel compounds are listed as suspected human carcinogens.

8. Issue: Should medical and research hoods be exempt under NR 445?

Issues Raised by Environmental Group Representatives  
Regarding Proposed Hazardous Air Contaminant Emission Rules

1. Issue: Do the proposed rules adequately control groups of sources where each source's individual emissions are below permit threshold limits, but which in aggregate exceed such limits?

Comment: One commenter expressed concern that the proposed rules will not adequately control the above case which could arise where a group of small emitters of a given contaminant were located near each other.

Response: It is possible for such a scenario to occur. Since the Department is obligated to protect public health, when this kind of situation occurs, the Department will require reductions under its general authority to ensure that public health is protected.

2. Issue: Do the proposed rules allow the Department to regulate contaminants which are later shown to cause health problems, but which are not explicitly included in Tables 1-4?

Comment: One commenter indicated the rules do not enable the Department to regulate such contaminants and that this was a significant weakness of the rules.

Response: When the rules were originally proposed, this allegation was correct. However, the rules have been modified to address this issue, as follows:

- A. For new sources, the rules now preserve the Department's ability to evaluate and appropriately address the public health impacts of new contaminants.
  - B. For existing sources, the rules allow regulation of the contaminants on the existing lists only, with two important caveats. First, as Issue #7 below indicates, a formal review and updating mechanism has been built into the rules, which will periodically require the Department to deal with new contaminants even when emitted by existing sources. Second, the Department can address new contaminant problems on an ad hoc basis, whenever it must respond to a specific concern, through use of its general authority.
3. Issue: Should certain contaminants be reclassified into more stringent control categories based on recent knowledge?

Comment: One commenter suggested that five specific substances (or substance categories) regulated by the rules be moved to a different list. He indicated these changes would take into account recent research and scientific knowledge gained. The substances and the suggested reclassifications are shown below:

Substance

Revision

Methylene chloride	Move to Table 3
1,1,1 Trichlorethane	Move to Table 3
All Chloro/Bromo dioxin isomers	Add to Table 3
All Chloro/Bromo furan isomers	Add to Table 3
Formaldehyde	Move to Table 3

Response: Except for formaldehyde, the Department feels there is currently insufficient support for making the above suggested changes. The 1985 list published by the National Toxicology Program classifies only formaldehyde as a suspected carcinogen.

4. Issue: Are the rules related to nonthreshold contaminants (Table 3) overly focussed on cancer causing contaminants, to the exclusion of other health problems that should be considered, such as neurological, mutagenic and teratogenic abnormalities?

Comment: One commenter felt the rules are deficient in this respect.

Response: The Department relied on the guidance of the Task Force on this issue. The Task Force's thinking was that the rules should not initially attempt to control potential teratogens, mutagens or immuno suppressants, for example, in establishing a foundation for toxic emission controls. The Task Force did feel, as does the Department, that such problems should be dealt with subsequently as expansions to the rules. We simply couldn't do everything at once.

5. Issue: Are the rules insufficiently oriented towards an ecosystem outcome-based approach?

Comment: A commenter suggested that the focus of the rules should be broadened to encompass an ecosystem outcome-based approach to account for the overall impacts from all contaminants on all environmental media.

Response: As indicated in the response to the previous issue, both the Task Force and Department feel the proposed rules will form a solid foundation for the control of toxic emissions. The judgement was that an ecosystem level control system is simply not implementable at this time. Nonetheless, the foundations laid by these rules, as well as by such efforts as the control of toxic effluent discharges and existing solid waste regulations are moving the Department towards a more ecosystem-oriented control strategy.

6. Issue: Will the rules include an ongoing review/update mechanism for Tables 1-4, to allow appropriate modifications to be made which take into account improved scientific knowledge?

Comment: One commenter indicated that a review mechanism to allow updating the lists of regulated contaminants was a crucial needed addition to the rules.

Response: The Department agrees with this comment and has incorporated a formal procedure for review and updating.

7. Issue: To what degree do the rules provide for minimizing the use of increased stack height to comply with toxic emission limits?

Comment: One commenter indicated that the rules need to specify that stack height increases beyond the limits of "good engineering practice" are not acceptable, arguing that dilution of air contaminants which pose a public health hazard cannot be a reasonable solution.

Response: Although the rule does not contain a limitation on stack height credit, the Department intends to limit stack height credit to the "downwash minimization stack height" as defined in the rule. In addition, for compliance purposes, increasing stack height, or use of other dilution measures shall not be construed as installation of control equipment.

Comments in the Legislative Council  
Rules Clearinghouse Report

The Legislative Council Rules Clearinghouse Report (87-66) on the proposed rule included several comments on the substance and form of the proposed rule. Modifications have been made to the form and substance of the proposed rule to address all of the comments in the report.

DATE: February 23, 1988 FILE REF: 4510

TO: C. D. Besadny - AD/5

FROM: Donald Theiler - AM/3

SUBJECT: Background memo to the February, 1988 Green Sheet requesting Board adoption of proposed hazardous air contaminant emission limitations and proposed hazardous emissions criterion for exemption from permitting requirements.

These rules are proposed in response to an April 23, 1981, Natural Resources Board request, as well as the final recommendations of the Hazardous Emissions Task Force.

A. Chronology

In 1981 the Department had initially proposed to include 1,1,1-trichloroethane and methylene chloride in Reasonably Available Control Technology (RACT) regulations for controlling precursors of ozone. This proposal resulted in considerable controversy. Industrial representatives contended that they would be at a competitive disadvantage, since other states had exempted the compounds from RACT regulations. The environmental community argued that the compounds may be carcinogens, and exempting them from RACT regulations would encourage their use. As a compromise the Board in July 1982, exempted the two compounds from RACT but required users to register use of the compounds with the Department.

In striking this compromise, the Board unanimously approved a resolution which resolved that a, "... task force be appointed by the Secretary to monitor scientific literature on the health hazards posed by 1,1,1-trichloroethane and methylene chloride. This task force should include at least two toxicologists. It will report periodically to the Natural Resources Board over a two year period. At the end of the two year period a final report should be prepared which evaluates the potential health impact of these compounds and the adequacy of existing regulations."

Based on this April 23, 1981, Board resolution, and the advice of the Air Pollution Control Council the task force charge was expanded to look at the adequacy of existing regulation of hazardous pollutants in general because of a lack of direction in this area at the federal level. The Department in February 1983 solicited nominations from the Chemical Coaters Association, Wisconsin Paper Council, United Foundrymen's Association, and the Wisconsin Utilities Association. These groups collected under the Wisconsin Association of Manufacturers and Commerce

umbrella and submitted nominees for task force membership. Similar efforts were undertaken with the environmental community under the Citizens for a Better Environment umbrella. Nominees from the Department of Development and the Department of Health and Social Services were also solicited.

The Task Force was formed in May 1983, to advise the Department on procedures relating to the regulation of hazardous air contaminants which may be needed to adequately protect the health and welfare of the citizens of the state. On July 24, 1985, the Task Force approved recommendations for the regulation of hazardous air emissions. Specifically, the Task Force made recommendations on a definition of the term hazardous air contaminant, the adequacy of existing regulations for 1, 1, 1-trichloroethane and methylene chloride, the regulation of hazardous air emissions, and the sources of hazardous emissions which should be exempt from permitting requirements.

In March, 1986, staff of the Bureau of Air Management summarized the Task Force recommendations including presentation of draft rules, in an information item to the Natural Resources Board. At the Board's direction staff conducted six public information meetings at locations in each district during June, 1986. These meetings resulted in a significant amount of comment, however few comments provided quantitative information on the cost impacts of the draft rule. In fact, one often-heard comment was that potentially affected entities did not have the capability to assess the cost implications of the draft rule.

In October, 1986, staff presented to the Natural Resources Board a summary of public information meeting comments, as well as potential staff recommended rule changes resulting from a review of comments. In an effort to address the comment that sources couldn't assess the impacts of the rule, the Bureau of Air Management in conjunction with the Wisconsin Association of Manufacturers and Commerce and the Federation of Environmental Technologists, has conducted a limited source assessment survey of 30 randomly selected sources in representative industrial categories within Wisconsin. This assessment was to determine who might be required to control their emissions under the proposed rule and what the cost of those controls might be.

In February 1987, the Natural Resources Board authorized hearings to be conducted on the proposed rule. Hearings were held on July 14 in Wausau, July 15 in Milwaukee and July 16, 1987, in Madison.

Since these hearings 15 meetings have been held with representatives of Industry Air Coalition - Air Toxics Negotiating Committee, Citizens for a Better Environment and other environmental groups, to take account of the comments made at the hearings and, to revise the rules to accommodate the concerns expressed.

**B. Rule Context**

The proposed rules embody portions of the Task Force recommendations and address application and administration features uncovered as a result of public information meetings, hearings, negotiations with the Industry Air Coalition - Air Toxics Negotiating Committee and Citizens for a Better Environment, and the source assessment survey conducted by the Bureau of Air Management.

The proposed rules address several problems inherent in the subject of controlling hazardous air emissions. First, it is very difficult to determine whether or not a specific compound is sufficiently toxic to warrant its inclusion in a list that calls for special consideration and control. This problem is emphasized by the U.S. EPA's inability to develop a comprehensive program under section 112 of the Clean Air Act (since 1970 the Agency has listed only eight substances as hazardous air pollutants and established emission standards for six of them). Rather than emulating the federal approach, which is exceedingly long, cumbersome and extremely resource intensive, the proposed rules rely upon the work of others (International Agency for Research on Cancer, National Toxicology Program, American Conference of Governmental Industrial Hygienists) to characterize the toxicity or carcinogenicity of a substance.

Second, the proposed rules differ in approach from those of several other states concerning treatment of known or suspected carcinogens. This is done because there is no known safe level of exposure for carcinogenic substances. Thus, rather than establishing threshold exposure limits for cancer causing contaminants, as some other states have attempted, the proposed rules employ technology based controls which are more stringent for new or modified sources if the compound is a known human carcinogen. The use of risk assessment techniques to establish emission limits, an approach taken by some other states, has been employed within the proposed rules for use only in assessing control technology variance requests and to a limited extent in establishing de minimus emission rates of these substances for permitting and control purposes.

Last, the proposed rule resolves the issue surrounding the adequacy of existing regulations for 1,1,1-trichloroethane and methylene chloride (see Board History). Based on the task force recommendations, methylene chloride concentrations will be limited to 2.4% of the threshold limit value. Emissions of 1,1,1-trichloroethane are exempt from regulation because of its high threshold limit value.

**C. Rule Summary**

The proposed rules consist of four component parts: definition, emission limitations, permit exemption criteria and compliance dates.

1. The definition of a hazardous air contaminant proposed within the rule embodies the definition of a hazardous air pollutant contained in Section 112 of the Clean Air Act, with one important exception. Unlike the federal definition, which is based solely on human health impacts, the definition of a hazardous air contaminant proposed within the rule has been expanded to allow for substances which may pose a significant threat to the environment. Additional definitions, specific to this chapter of administrative code, are provided for approved material safety data sheet, downwash minimization stack height, indoor fugitive emission and virgin fossil fuel. Statutory definitions of best available control technology and lowest achievable emission rate are also repeated for user convenience.
2. Several emission limitations (expressed as ambient concentration impacts) are proposed for substances grouped as threshold or acute hazardous air contaminants, and two control technology levels are proposed for new, modified or existing sources which emit substances which are nonthreshold hazardous air contaminants (known or suspected carcinogens). Sources of known human carcinogens would be required to implement Lowest Achievable Emission Rate (LAER) technology and sources of suspected carcinogens must apply Best Available Control Technology (BACT).
3. Permit exemption requirements are proposed for new or modified sources of hazardous air contaminants (s. NR 406). These permit exemptions specify emission rates (in pounds per hour) for the acute contaminants and annual emission levels (in pounds per year) for known or suspected carcinogens. If a source emits contaminants above the specified rates the source will be required to obtain an air pollution control permit.
4. The proposed rules also establish compliance dates for existing sources subject to the proposed emission limits. Beginning with sources which emit more than 100 tons of volatile organic compounds or particulates in 1986, a source has 3 months from the date of rule promulgation to identify which contaminants the source emits and the allowable emissions of each substance. Within six 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 equipment installation. This schedule continues at a 6 month staggered implementation approach as shown in the table. Additional extensions of up to 6 months can be obtained.

Table - Emission Limitation Compliance Schedule

<u>Source Description</u>	<u>Months from Rule Promulgation</u>			
	<u>Emissions Identification</u>	<u>Compliance Plan Submittal</u>	<u>Noncontrol Equipment Compliance</u>	<u>Control Equipment Compliance</u>
<b>1986 EMISSIONS</b>				
100 TPY Actual	3	6	18	30
100 TPY Allowable	8	12	24	36
All Others	14	18	30	42

**D. Policy Implications**

The proposed rules modify existing policy in that control of hazardous air contaminants will be more systematic and prospective in nature. Instead of issuing specific emission limitations, based largely on discovery of hazardous emission situations involving public health implications or based on a case-by-case determination as each permit is issued, the proposed rule establishes a list of hazardous air contaminants and specifies whether sources are exempt from permitting requirements, based on hazardous air contaminant considerations, and establishes a threshold exposure limit or control requirement for specific hazardous air contaminants.

**E. Rule Development**

In developing these proposed rules, the Department has received assistance from the Hazardous Emissions Task Force (see Report of Recommendations Hazardous Emissions Task Force to the Wisconsin Department of Natural Resources, July 1985), the Air Pollution Control Council and the Wisconsin Association of Manufacturers and Commerce and the Federation of Environmental Technologists in conducting the source assessment survey. To date, there has been only one inquiry from a legislator (Representative David Clarenbach regarding consistency with proposed community right-to-know legislation).

On August 26, 1987, Governor Thompson convened a meeting of representatives of Briggs & Stratton Corporation, General Electric, 3M, A. O. Smith, Miller Brewing, DOD Secretary Mauer, Secretary Besadny and staff of the Department. At this meeting the Governor asked the Department to work with the Industry Air Coalition to resolve their difficulties with the proposed rule. Based on the Governor's request subsequent meetings with the Industry Air Coalition - Air Toxics Negotiating Committee were held.

TO: C. D. Besadny - February 23, 1988

6.

F. Hearing Synopsis

See attached hearing examiners report.

G. Response to Legislative Council Rules Clearinghouse

See list item in summary response to comment memorandum.

H. Final Regulatory Flexibility Analysis

Based on the survey of 30 potentially affected sources, a review of 513 new and modified source permit analyses issued by the Department over the last four years, information supplied at six public information meetings conducted in June 1986, three public hearings conducted during July 1987, the recent promulgation of the Superfund amendments reauthorization act and subsequent rule modifications resulting from negotiations with the Industry Air Coalition - Air Toxics Negotiating Committee, staff believes the rule will not have a significant economic impact on the majority of small businesses.

With the changes made to the proposed rule as a result of the public hearing comments and the hazardous air emissions survey conducted last year it is roughly estimated that 75% of the existing sources in the state will not be affected by the rule at all except to require increased surveillance of their potential to emit hazardous pollutants. This requirement will follow new requirements instituted by the federal government as a part of the Superfund Amendments and Reauthorization Act (SARA) which are very similar, therefore there should be little or no increased recordkeeping. The primary activity will be to review the Material Safety Data Sheets (M.S.D.S.) to ensure that the permit de minimus levels are not exceeded.

Very few small businesses will be required to institute controls, however some categories such as hospital incinerators, pesticide manufacturers and processors, which may be categorized as small businesses, will be affected. All small service stations are now exempt. The fiscal note contains more detail on this issue including the executive summary of the survey results.

DT:JR:jk/3357C

ORIGINAL     UPDATED  
 CORRECTED     SUPPLEMENTAL

Adoption of revisions to sections NR 406.04, NR 407, and NR 445, WIS. Adm. Code pertaining to revision of emission limitations, compliance requirements and permit exemption criteria for sources of hazardous air contaminants.

State:  No State Fiscal Effect

Check columns below only if bill makes a direct appropriation or effects a sum sufficient appropriation.

- Increase Existing Appropriation     Increase Existing Revenues
- Decrease Existing Appropriation     Decrease Existing Revenues
- Create New Appropriation

Increase Costs - May Be Possible to Absorb Within Agency's Budget     Yes     No  
 Decrease Costs

Local:  No local government costs

- 1  Increase Costs  
 Permissive     Mandatory
- 2  Decrease Costs  
 Permissive     Mandatory

- 3  Increase Revenues  
 Permissive     Mandatory
- 4  Decrease Revenues  
 Permissive     Mandatory

5. Types of Local Governmental Units Affected  
 Towns     Villages     Cities  
 Counties     Others \_\_\_\_\_

Fund Sources Affected

GPR     FED     PRO     PRS     SEG     SEG-S

Affected Ch. 20 Appropriations

Assumptions Used in Arriving at Fiscal Estimate

New or modified sources which exceed the toxic emission rate threshold criteria contained within the rule will be required to obtain an air pollution control permit. Existing sources are required to submit a compliance plan and proceed to comply within specified time frames. A review of chemicals purchased and used by the source, and a calculation of emissions (mass balance or other) these proposed contaminants would be entailed. Costs to complete this data gathering phase can be expected to be minor, since sources usually keep records of materials purchased and are required to develop material use inventories under the community right-to-know provisions of the recently enacted Superfund Amendments and Reauthorization Act. If a source finds that it exceeds the proposed threshold criteria the source is required to submit an air pollution control permit application. These activities involve costs which vary by type of source, but are expected to rarely exceed \$100 - \$1,000.

The department may then review the permit application or compliance plan, including engineering calculations, and perform air pollution dispersion modeling. If after this analysis it is determined that a source would be required to reduce emissions, several options are available. Other substances can be substituted for the hazardous air contaminant, processing may be modified or pollution control equipment may be installed. Because sources differ so, each approach to reducing hazardous air contaminants tends to be unique. The cost can be as low as no cost for certain material substitutions and can be as great as a million dollars or more for some incinerator needs. However, the Department believes that those sources which have installed control technology for criteria pollutants will have few problems complying with the proposed hazardous pollutant regulations.

(continued on attached sheet)

Long-Range Fiscal Implications

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Agency/Prepared by (Name & Phone No.)

Authorized Signature, Telephone No.

Date

*Mr. Polasek*

7-27-88

Assumptions Used in Arriving at Fiscal Estimate (continued)

Many state facilities and operations may be affected by the rule. Potentially affected state facilities include power plants, prison industries, institutions and landfills as well as other resource management practices. Local government facilities affected may include power plants, incinerators, and landfills. The economic impacts of the proposed rule on state and local governments can best be characterized as being of similar magnitude to those of private industry. In summary, due to the uniqueness of many sources and the case-by-case review process contained within the proposed rule, without a complete inventory of uses and emissions of the proposed hazardous air contaminants, it is virtually impossible to quantitatively assess the economic impacts of the proposed rule.

Statewide Fiscal Impact

In an effort to assess the economic impacts of the proposed rule, the Department, in conjunction with the Wisconsin Association of Manufacturers and Commerce and the Federation of Environmental Technologists, has conducted a limited source assessment survey of 30 randomly chosen sources, each within a different standard industrial classification. This survey indicates that sources, when analyzed at their potential (24 hours per day/365 days per year) and exceed acceptable health-based concentrations, could comply with the rule's limitations at minor cost through material substitutions, minor stack height increases or limits on production at a rate less than the source's maximum potential to produce. The survey also indicated that where a source has control equipment required for criteria pollutants, the equipment is usually sufficient to control emissions of hazardous air contaminants to acceptable levels. The Department also reviewed the last 513 new and modified source permits issued and found only one permit which required additional controls beyond those necessary for criteria pollutants.

Attached to this fiscal estimate is the executive summary of the survey which was conducted in early 1987. Since the survey was conducted and the summary prepared, a number of modifications have been made to the rule which resolve some of the issues raised. Most specifically, the exemption for virgin fossil fuels, limiting the carcinogen list to the National Toxicology Program (NTP) list, and raising the allowable ambient concentrations for acute toxics to 2.4% of the threshold limit value will reduce the impacts from that listed in the summary. Also, only very large service stations will be required to control their benzene emissions and most can accomplish this through the implementation of Stage 1 vapor recovery equipment at a relatively modest cost.

From a departmental perspective, resource requirements to administer the proposed rule can be identified within four areas. These four areas and the fiscal and staff resource requirements are as follows:

1. Emissions Estimation - It is the obligation of the source to know what their emissions are and to report these emissions. However, the Department can respond to requests for technical assistance from small sources to determine emissions estimates in cases involving questions of rule applicability. It is estimated that no additional staff would be necessary but training for existing staff may be required.

Assumptions Used in Arriving at Fiscal Estimate (continued)

2. Permitting and Compliance Plan Reviews - The additional work required to include hazardous air contaminants in new or modified source permits and to review compliance plans is estimated to be four additional person years. The majority of this work would involve assessments of technology-based requirements for sources of known or potential carcinogens. The Department estimates three person years for this activity and an additional person year for assessment and determination of source impacts for threshold hazardous air contaminants. The Department expects required compliance plans to be initially reviewed within a four year period. Thus, these four additional person years would be necessary for a total of four years. One person year would be required on a continuing basis thereafter to process new and modified permits.
3. Compliance/Surveillance - Resources necessary to perform additional compliance and surveillance activities for hazardous air contaminants are estimated at two additional person years. These activities include stack test witnessing, source inspections for hazardous air contaminants and compliance pollutant monitoring and analysis by the department.
4. Rule Modifications and Update - Because the hazardous air contaminant permitting and compliance provisions include tables of hazardous air contaminants which are based on the work of several ongoing research/analysis agencies, the tables will require annual updating. An additional provision in the rule requires hazardous air contaminant health evaluations for variance requests, as well as an analysis of the adequacy of emission limits for Table 4 substances. At a minimum, one position is necessary to accomplish these tasks. A position was provided in the FY 87-88 budget, and will be used for these purposes as soon as authorization to hire is approved by the Department of Administration.

In total, the department estimates a continuing resource commitment of six person years for the first four years of the program and three person years thereafter (\$219,600 of staff salary and support and \$30,400 of modelling and computer costs) would be necessary to administer the proposed rules.

Estimated Total Cost: \$1,200,000 (Estimated)

The following information was obtained from a review of the records of the Department of Natural Resources, Bureau of Air Management, and the records of the Wisconsin Department of Natural Resources, Bureau of Air Management. The information was obtained from a review of the records of the Department of Natural Resources, Bureau of Air Management, and the records of the Wisconsin Department of Natural Resources, Bureau of Air Management.

### Hazardous Air Contaminant Survey of Facilities

#### Executive Summary

The purpose of this survey is to identify and estimate the potential for hazardous air contaminants from various sources. The survey was conducted in accordance with the requirements of the Clean Air Act and the Wisconsin Department of Natural Resources, Bureau of Air Management. The results of the survey are presented in this report.

The survey was conducted in accordance with the requirements of the Clean Air Act and the Wisconsin Department of Natural Resources, Bureau of Air Management. The results of the survey are presented in this report.

### Wisconsin Department of Natural Resources Bureau of Air Management

The Wisconsin Department of Natural Resources, Bureau of Air Management, is responsible for the implementation and enforcement of the Clean Air Act. The Bureau of Air Management is currently conducting a survey of hazardous air contaminants from various sources. The results of the survey are presented in this report.

July 1987

(34)

## Executive Summary

For the past four years the Department of Natural Resources has been in the process of developing proposed administrative rules to regulate hazardous air contaminants. As part of this rule development process, the Department conducted six public information meetings throughout the state in June 1986. One comment often heard at these meetings was that sources couldn't assess the impacts of the proposed rules. In response to this comment, the Department with the assistance of the Wisconsin Association of Manufacturers and Commerce has conducted a survey to assess the impact of these rules. In the survey we hoped to answer seven important questions:

1. What types of facilities would be affected by the proposed rules?
2. What hazardous air contaminants are emitted and in what amounts are they emitted?
3. Do potential problems exist with the proposed rules as they are currently drafted?
4. How many sources would be required to apply for permits as a result of this rule?
5. How many and what types of facilities have the potential to create an air pollution problem from a hazardous air contaminant perspective?
6. What additional hazardous contaminant mitigation measures are necessary?
7. What are the costs of these measures?

The survey included 24 randomly chosen manufacturing facilities, a gas station, a dry cleaner, a coal fired power plant, wood stoves, a municipal incinerator, a pathological incinerator and a residual oil fired boiler. However, chosen facilities were not required to participate.

The manufacturing facilities were chosen from 13 major Standard Industrial Classification groups, providing a broad cross section of manufacturing facilities in the state. The chemical, food and primary metal industries were given extra scrutiny, since these industries are important in the state or because of the potential for hazardous emission problems. For each facility, our analysis included data collection, emission estimates, determination if a permit would be required, and where applicable; dispersion modeling, and an assessment of mitigation measures and the estimated cost of these measures.

Results were summarized and extrapolated to the extent possible to other facilities in the state. Since facilities in the same major standard industrial classification group can be significantly different, caution should be exercised in extrapolating survey results to other facilities in the state.

Table A summarizes results for individual facilities. These individual results were grouped by major standard industrial classifications. Results are as follows:

1. What types of facilities would be affected by the proposed rules?

Most large manufacturing facilities, a few smaller facilities, incinerators, large fossil fuel users and gasoline stations would be affected by the proposed rule. Of the manufacturing facilities the chemical and allied products facilities would be most affected.

2. What hazardous air contaminants are emitted and in what amounts are they emitted?

We found 89 different contaminants emitted in varying amounts. Of the 89 contaminants; 74 were from Table 1, the list of acute contaminants; nine were from Table 2, the list of known human carcinogens; five were from Table 3, the list of suspected human carcinogens; and one was from Table 4, the known animal carcinogen list. Emissions of the one Table 4 pollutant were insignificant.

3. Do potential problems exist with the proposed rules as they are currently drafted?

We found two problems with the proposed rule. Small residual oil and coal users would be required to limit emissions of cadmium and nickel with best commercially available control technology and lowest hazardous emission rate technology respectively. Although these small coal and residual oil users have the potential to emit more than the permit de minimus limits for these contaminants, the risks are generally small. More work is required on hazardous air contaminant emissions from fossil fuel combustion.

We found that the permit de minimus limits for some pollutants, especially vinyl chloride and 2,3,7,8 TCDD, may be too high to provide adequate health protection. Conversely, permit de minimus limits for nickel and cadmium may be too low perhaps triggering the need for unnecessary control equipment.

4. How many sources would be required to apply for permits as a result of this rule?

Most large sources, about half the medium size sources and only a few small sources would be required to obtain permits. Generally, the facilities emitting hazardous air contaminants in quantities exceeding permit de minimus limits are already required to obtain a mandatory operating permit for criteria pollutants. The increase in required permits is not expected to be significant. However, for facilities with a multiplicity of sources, the permits may be more complex.

5. How many and what types of facilities have the potential to create an air pollution problem, from a hazardous air contaminant perspective?

A relatively large number of facilities have the potential to create a hazardous air contaminant problem unless adequate steps are taken to ensure that emissions are controlled. Large facilities have greater potential to cause problems than smaller facilities. Incinerators and facilities in the chemical and allied products industry have greater potential to cause problems than most other manufacturing facilities.

6. What additional hazardous contaminant mitigation measures are necessary?

In general most potential problems can be avoided by limiting hours of operation or production to ensure contaminant emissions do not result in high concentrations. For acute contaminants minor stack height configuration changes are usually adequate to prevent high concentrations. With the noteworthy exception of incinerators, existing particulate matter controls are generally adequate to control carcinogenic hazardous air contaminants in particle form. For gaseous carcinogenic emissions, product switching and after-burners were mentioned as possible mitigation measures.

7. What are the costs of these measures?

In general compliance costs are relatively low. Most small and medium size sources would not need any additional control equipment. About half of the large facilities, discounting those using fossil fuels in boilers, would require some form of additional hazardous contaminant mitigation technique. Although cost could vary, for most large facilities the costs should generally be reasonable.

We found most gas stations would require Stage I and Stage II vapor recovery equipment to control gasoline vapors and benzene. We determined individual wood stoves could not emit hazardous air contaminants in quantities exceeding permit de minimus limits. We also determined fugitive emissions of Table 1 hazardous air contaminants would not create significant enough air quality problems to warrant inclusion in the permitting process, although two sources did emit fugitive Table 1 contaminants in excess of the permit de minimus limits. These would be handled on a case by case basis.

Table A  
Results of Hazardous Air Contaminant Survey

Facility Type	Fuel Considered	Source Size	MOP Required for Hazardous Air Contaminant	MOP Required for Criteria Pollutant	Concentration of Acute Contaminant Exceeds 1% of TLV	Carcinogenic Contaminant Control Technology Required	Comments
Appliance Manufacturing	No	Large	Yes	Yes	Yes	No Carcinogens Found	Increase stack height at a cost of \$10,000.
Asphalt Plant	No	Large	Yes	Yes	No	No	
Automobile Manufacturing	No	Large	Yes	Yes	No	No Carcinogens Found	
Chemical Manufacturing	No	Small	Yes	No	Yes	LHER or BACT	Direct stack exit upwards at minimal cost. Carcinogens have existing control which may meet requirement.
Construct or Ag Equip Mfg	No	Large	Yes	Yes	No	No Carcinogens Found	
Dry Cleaner	No	Medium	No	No	No	No Carcinogens Found	
Electrical Components Mfg	No	Large	No	No	No	No Carcinogens Found	
Food Processing - Brewing	No	Medium	No	Yes	No	No Carcinogens Found	
Food Processing - Meat	No	Large	Yes	Yes	Yes	LHER & BACT	LHER for vinyl chloride-plastics extrud. Limiting operating hours solves prob. BACT for B(a)P-smoke houses. \$100,000-\$300,000
Food Processing - Miscellaneous	No	Small	No	No	No	No Carcinogens Found	
Foundry - Iron - Cupola	No	Large	Yes	Yes	Yes	LHER or BACT	Capitol:LHER for Ni, variance poss. BACT for Cd. Current controls BACT. Cast Cooling:A short stack for acutes. LHER for benzene.
Foundry - Iron - Electric	No	Large	Yes	Yes	No	LHER or BACT	Risk is less than 1/1,000,000 for Ni, a variance is possible. BACT for Cd. Existing controls meet BACT.

Table A  
Results of Hazardous Air Contaminant Survey

Facility Type	Fuel Considered	Source Size	MOP Required for Hazardous Air Contaminant	MOP Required for Criteria Pollutant	Concentration of Acute Contaminant Exceeds 1% of TLV	Carcinogenic Control Technology Required	Comments #
Foundry - Nonferrous	No	Small	Yes	Yes	No	No	
Gas Station	No	Small	No	No	No	IHER	For a small station, risk for benzene exceeds 1/1,000,000. Stage I costs Approx \$1,000. Stage II costs approx. \$12,500.
Incinerator - Municipal	Yes	Small	Yes	Yes	No	IHER or BACT	A variance is possible for nickel. BACT necessary for cadmium. Estimated cost is \$400,000.
Incinerator - Pathological	Yes	Medium	Yes	Yes	No	No	
Industrial Boiler - Oil	Yes	Medium	Yes	Yes	No	IHER or BACT	Risk exceeds 1/1,000,000 for nickel. Fuel switching may solve problem. Cost is approx. \$1.45/mBtu-year.
Leather Coating	No	Large	Yes	Yes	Yes	No Carcinogens Found	No cost estimate for control. Can not raise stacks, due to airport landing pattern.
Lime Kiln	No	Large	Yes	Yes	Yes	No	Source is currently negotiating with the DNR to solve ISP problem related to CaO emissions.
Metal Plating	No	Medium	Yes	No	Yes	No Carcinogens Found	Raising the stack or limiting hours of operation solves the problem at a minimal cost.
Metal Products	No	Medium	No	No	No	No Carcinogens Found	
Paper Mfg	No	Large	No	Yes	No	No Carcinogens Found	
Pesticide Mfg	No	Medium	Yes	No	Yes	BACT	Existing controls BACT for lindane. Dursban emissions fugitive. Limiting dursban production may be sufficient.
Petroleum Refining	Yes	Large					Analysis incomplete.

Table A  
Results of Hazardous Air Contaminant Survey

Facility Type	Fuel Considered	Source Size	MGP Required for Hazardous Air Contaminant	MGP Required for Criteria Pollutant	Concentration of Acute Contaminant Exceeds 1% of TLV	Carcinogenic Contaminant Control Technology Required	Comments #
Plastics or Resin Mfg	Yes	Large	Yes	Yes	Yes	No	The source has been dealing with DNR to control formaldehyde. A stack height increase solves problem. Cost is \$130,000.
Portland Cement Transshipment	No	Large	No	No	No	No Carcinogens Found	
Power Plant	Yes	Large	Yes	Yes	No	LHER	Existing ESP may meet LHER. Risk is much less than 1/1,000,000.
Printing Equipment Mfg	No	Large	Yes	No	No	No Carcinogens Found	
Wood Furniture Mfg	No	Large	Yes	No	No	No Carcinogens Found	The source has used 2-nitropropane (Appendix 3). They have just recently stopped. No problem with substitute.
Wood Prod-Chip Board, Plywood	Yes	Large	Yes	No	Yes	No	Restricting operating hours would be sufficient.
Wood Stove	Yes	Large	No	No	No	No	

# Risk exceeds 1/1,000,000 for several sources of Appendix 2 pollutants even though emissions are less than permit de minimis limits.

Source: Wisconsin Dept. of Natural Resources

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ESTIMATE WORKSHEET

1987 Session

Estimate of Annual Fiscal Effect:

ORIGINAL  UPDATED  
 CORRECTED  SUPPLEMENTAL

LRB or Bill No./Adm. Rule No.

Amendment No.

LA 22 (Rev. 10/86)

Revisions of emissions limitations and permit exemption criteria for sources of hazardous air contaminants.

I. One-time Costs or Revenue Fluctuations for State and/or Local Government (do not include in annualized fiscal effect):

II. Annualized Costs. Note: Treat fiscal costs like a "checkbook": increased costs reduce available funds (-), decreased costs increase available funds (+).

A. State Costs by Category

	Annualized fiscal impact on State funds from:	
	Increased Costs	Decreased Costs
Salaries and Fringes	\$ - 219,600	\$ +
State Support Costs \$2,500 per normal support costs C.O.	- 15,000	+
Other State Costs (modelling and computer costs)	- 30,400	-
Local Assistance	-	+
Aids to Individuals or Organizations	-	+
<b>TOTAL State Costs by Category</b>	<b>\$ -</b>	<b>\$ +</b>

B. State Costs by Source of Funds

	Increased Costs	Decreased Costs
GPR	\$ - 265,000	\$ +
FED	-	+
PRO/PRS	-	+
SEG/SEG-S	-	+

C. FTE Position Changes

	Increased Pos.	Decreased Pos.
	+ ( 6 )	- ( )

III. State Revenues—Complete this only when proposal will increase or decrease state revenues, such as taxes, license fees, etc.

	Decreased Rev.	Increased Rev.
GPR Taxes	\$ -	\$ +
GPR Earned	-	+
FED	-	+
PRO/PRS	-	+
SEG/SEG-S	-	+
<b>TOTAL State Revenues</b>	<b>\$ -</b>	<b>\$ +</b>

Net Annualized Fiscal Impact on State & Local Funds

State		Local	
Annual Increases	Annual Decreases	Annual Increases	Annual Decreases
Total Costs	\$ - 265,000	Total Costs	\$ -
Total Revenues	+	Total Revenues	+
<b>NET Impact on State Funds</b>	<b>\$ (+) or (-) 265,000</b>	<b>NET Impact on Local Funds</b>	<b>\$ (+) or (-) SEE NARRATIVE</b>

Agency Prepared by (Name & Phone No.)  
 Jim Rickun - DNR - 267-7547

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Authorized Signature Telephone No.

*Jim Rickun*

Date

*2-26-88*

DECISION ON THE NEED FOR AN  
ENVIRONMENTAL IMPACT STATEMENT

(This decision is not final until certified by the Director of the Bureau of Environmental Analysis and Review (BEAR))

In accordance with the Wisconsin Environmental Policy Act (WEPA) s. 1.11, Wis. Stats., and Chapter NR 150, Wis. Adm. Code, the Department is empowered to determine whether it has complied with s. 1.11.

The attached analysis of Proposed (Revisions to) (s., Ch.) NR ~~446, 407, 445~~ Wis. Adm. Code pertaining to HAZARDOUS AIR CONTAMINANTS is of sufficient scope and detail to conclude that this (~~is~~ or is not) a major state action which would significantly affect the quality of the human environment. An environmental impact statement (~~is~~ or is not) required prior to final action by the Department to adopt this rule. This determination was made considering the attached analysis and the following factors:

Like the current rule (NR 445), this rule revision is designed to protect the health and welfare of citizens of the state from potentially harmful hazardous air contaminants. Likewise, the revision is designed to improve the air and, ultimately, water resources of Wisconsin. This proposed revision differs from the current rule because it is a preventative approach to hazardous air contaminant regulation, which is structured to prevent problems from happening rather than allowing them to occur and using corrective enforcement measures under NR 445.

Many potential sources of hazardous air contaminants already employ some control technology (based on control of criteria pollutants) but complete compliance with hazardous emission limits cannot be determined until all sources have been reviewed. These proposed rules should not have intermedia cumulative regulatory effects since cooperative agreements regarding permitting of incinerators and air strippers already exist between the Bureaus of Air Management, Solid Waste Management and Water Supply. Additionally, potential overlap with federal regulations has been eliminated by exempting from permit requirements those sources subject to National Emissions Standards for Hazardous Air Pollutants.

The major impacts of the proposed rules will be in the areas of public health and economic impacts. Decreased emissions of hazardous air contaminants will result in improved public health. The total economic impacts of the proposed rule cannot be quantitatively estimated prior to implementation. However, adverse economic impacts for various sources will be limited by several provisions of the proposed rules. For sources of known human carcinogens, the rule provides a variance procedure with an economic risk cap as well as an associated public health risk cap. For sources of potential carcinogens, the rule requires available control technology which should limit economic impacts to levels experienced by others in the industry or other industries using similar processes. For the other hazardous air contaminants listed which require ambient concentrations not to exceed 2.4% or 10% of the Threshold Limit Value (TLV), economic impacts should be limited because control below the TLV values are typically already required under OSHA for worker health and safety (the 2.4% and 10% allows for dilution/dispersion to the property line).

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The proposed rules do not preclude future actions or options of federal, state or local governments, since these rules do not set any precedent for source permitting but rather incorporate the approach to control of hazardous air contaminants within the existing permitting process. The only impacts which may be irreversible would be the health impacts resulting from those emissions still allowed under the proposed rule.

As with all rules designed to reduce the introduction of toxic substances into the environment, this rule will be accompanied by an expected amount of controversy. However, based on rule modifications incorporated after public hearings, the degree of controversy should be reduced.

The environmental impacts that have been identified in this assessment are beneficial. The lack of adverse environmental impacts predicted from this revision must be underscored here. As the rules are written, the revision would reduce emissions of hazardous air contaminants. The purpose of NEPA is to promote harmony between development and the environment by predicting effects, and exploring alternatives to mitigate adverse effects. Courts have interpreted major action as those with significant adverse environmental effects. Adverse environmental effects are clearly not the case with these revisions. The revisions are a product of 7 years of effort, coordinating with industry and environmental groups, as well as the production of several studies evaluating the impacts of the proposed rules. The Department also:

- Formed a Task Force to study hazardous emissions and developed, after 2 years work, recommendations that led to these rule revisions.
- Held 6 public information meetings throughout the State to help identify potential effects.
- Held 3-public hearings to obtain comment on the rule.
- Worked with industrial representatives to survey industrial groups to determine potential effects.

In conclusion, the Department has taken the "hard look" and made the "searching inquiry" required by NEPA and not found significant effects. Despite the "searching inquiry" by the Department, some people still believe the rule revisions would have a significant adverse effect on Wisconsin's economic environment and would adversely affect the economic viability of the State. Even if this belief could be substantiated, economic effects do not, by themselves, require the preparation of an Environmental Impact Statement (EIS).

The Wisconsin Environmental Policy Act specifically states that state agencies are to follow guidelines established by the President's Council on Environmental Quality (CEQ) in implementing the provisions of NEPA. CEQ Guidelines address (November, 1978) the question of the relevance of economic considerations to the EIS decision. At 40 CFR (Code of Federal Regulations) 1508.14, the CEQ defines "human environment". CEQ specifically states that "Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment". The regulation further

stresses, "...economic or social effects are not intended by themselves to require preparation of an environmental impact statement". The Department's WEPA procedures (NR 150) reflect the CEQ guidelines in the definition of a "major action," meaning an action of such magnitude and complexity that the action will have significant effects on the quality of the human environment. This does not include actions whose significance is based on economic or social effects NR 150.01 (16)). Because of this, even if significant adverse, social or economic effects could be substantiated, by themselves they would not warrant preparation of an EIS.

If you disagree with this, you have a right to request a contested case hearing pursuant to s. 227.42, Stats. You have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.

This notice is provided pursuant to s.227.48(20), Wis. Stats.

James A. Rechen  
Evaluator's Name

2-22-88  
Date

Donald L. Miller  
(Bureau Director's Name and Title)

2/22/88  
Date

Certified to be in compliance with WEPA\*

W. B. Birch  
Director, BEAR (or designee)

2/22/88  
Date

\*If you believe you have a right to challenge this decision, you should know that Wisconsin Statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

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## II. History and Background

See background memorandum, pages 1-6. The remaining portions of NR 445 are being developed concurrently with this proposal and will replace NR 154.19.

## III. Proposal Description

### A. What the rule revision is supposed to accomplish.

The purpose of the proposed rules is to establish a definition of a hazardous air contaminant and also establish permit emission limits or control technology requirements and compliance requirements for sources of hazardous air contaminants to provide adequate protection for public health and welfare.

### B. Key studies, assumptions or policies that helped shape the rule revision.

These rules are proposed in response to the Report of Recommendations of the Hazardous Emissions Task Force to the Wisconsin Department of Natural Resources. In July, 1985, the Task Force forwarded recommendations on a definition of the term "hazardous air contaminant", emission limitations for hazardous air contaminants, the adequacy of existing regulations for 1,1,1-trichloroethane and methylene chloride, and, which sources of hazardous emissions should be exempt from permitting requirements.

The de minimus limits for permit requirements contained in Tables 1 and 2 of the proposed rules are based on a RAM dispersion model application for a 11 1/2 foot stack with a 1 foot diameter and a 1000 cu. ft/minute stack gas exit velocity per the March 22, 1985, memo by Adamski (contained in Appendix 5 of the Task Force Report), or similar dispersion modeling for 25 foot stack heights. The emission limits for permit and compliance requirements for contaminants contained in Table 3 of the proposed rule were based on U.S. Environmental Protection Agency Carcinogen Assessment Group unit risk factors believed to protect public health, yet minimize requirements for very small emitters of these substances.

### C. Major provisions of the proposed rule.

These proposed rules revise the hazardous air contaminant criteria for determining whether new or modified stationary sources of air pollution are exempted from requirements to obtain air pollution control permits under s. NR 406.04, Wis. Adm. Code. The rules also provide emission limits and compliance requirements for existing sources of hazardous air contaminants. The revisions specify emission rates (in pounds per hour) for acute hazardous substances and emission rates (in pounds per year) for known or suspected carcinogens. If a new or modified source emits materials above the listed rates, the source will be required to obtain an air pollution control permit. For instance, sources which emit hazardous contaminants in amounts greater than the pound per hour amounts

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listed in Table 1, 2, or 4 of the proposed rule would be required to apply for an air pollution control permit. Sources which use more than the pound per year amount of a contaminant listed in Table 3 would be required to apply for an air pollution control permit. Similarly, existing sources of Table 1, 2 or 3 contaminants are provided schedules for complying with emission limits.

The rules also create five new definitions. The first defines the term "hazardous air contaminant" and identifies several lists of hazardous air contaminants. Second, the rule defines an approved material safety data sheet as a material safety data sheet, which meets the reporting requirements of the Superfund Amendments Reauthorization Act or the Occupational Safety and Health Act. This definition is important since sources will rely heavily on the information on these sheets to determine emissions. Third, the term "downwash minimization stack height" is defined for the purpose of exempting emissions from combustion sources with adequate stack heights to eliminate downwash. Fourth, the term "indoor fugitive emission" is defined to distinguish emissions from general ventilation sources. Fifth, "virgin fossil fuel" is defined so that emissions from combustion of such fuels can be exempted from permit or compliance requirements. Last, the statutory definitions of best available control technology and lowest achievable emission rate are repeated in the chapter for user convenience.

#### D. Exemptions provided by the proposed rules.

The proposed rules do not regulate the emission of all substances known to be hazardous, nor do the rules propose permitting of all sources of these substances. For example, mobile sources are not required to obtain permits under this rule. However, mobile sources (cars, trucks) are required to have devices for the control of criteria pollutants under federal and state law.

Similarly, not all hazardous substances are defined as hazardous air contaminants under the rule. Based on the recommendations of the Hazardous Emissions Task Force, Table 3 of the rule limits emissions of substances classified by the National Toxicology Program as having sufficient evidence of carcinogenicity from studies of humans or experimental animals. Likewise, the proposed rule only limits emissions of less than half of the substances which the American Conference of Governmental Industrial Hygienists identified for control in the workplace. These exemptions were based on the following eight criteria used by the Hazardous Emissions Task Force:

1. Substances which the Hazardous Emissions Task Force believes the only use of within Wisconsin are in such small quantities, as not to pose a threat to public health and welfare.
2. Inert gases or vapors which when present in high concentrations, act primarily as simple asphyxiants without other significant physiologic effects.

3. Inert dusts which, unlike fibrogenic dusts, have a long history of little adverse effect on the lung and do not produce significant organic disease or toxic effect when workplace exposures are kept under reasonable control.
4. Substances, in vapor or gaseous form, for which the American Conference of Governmental Industrial Hygienists has ascribed a threshold limit value - time weighted average greater than 99 parts per million (ppm) with a few minor exceptions.  
These exceptions include acetaldehyde; 1,1-dichloroethane; 1,2-dichloroethane; ethyl benzene; ethyl formate; methyl formate; methyl methacrylate; methylene chloride; nitroethane; nitromethane; stoddard solvent; tetrahydrofuran; toluene and xylene. The majority of these substances have TLV's of 100 ppm and are used in commerce.
5. Criteria pollutants or hazardous pollutants for which national emission standards have been established because of the provisions of s. NR 446 to 449.
6. Substances, in particulate form, for which the American Conference of Governmental Industrial Hygienists has ascribed a threshold limit value - time weighted average equal to or greater than 10 milligrams per cubic meter.
7. Substances possessing an explosive nature which require safety procedures precluding ambient concentrations which would present hazardous concerns.
8. Substances which are recognized or suspected to have carcinogenic or cocarcinogenic potential by the American Conference of Governmental Industrial Hygienists.

The substances which remained were again subjected to additional review based on the predominant purpose for which the substance is used. Pesticides, insecticides, rodenticides, herbicides and fungicides were separated on a second table for applicability to manufacturers and processors of the chemicals only. Thus, end users of these contaminants are exempted from regulation while manufacturers or processors are not.

#### IV. Affected Environment

##### A. Physical or biological environment affected by the proposed rules.

Since these rules are prospective, and seek to prevent public health problems from occurring, the public health and welfare of citizens of the state should be better protected through the establishment of the emission limitations for hazardous air contaminants. The flora, fauna and water resources of the state will also benefit from reduced atmospheric loading of hazardous air contaminants since the proposed definition of a hazardous air contaminant also includes those contaminants that may pose a significant threat to the environment.

Most of the hazardous air contaminants included in the Tables can be classified into broader categories of volatile organic compounds (VOCs) or particulate matter (PM). Current requirements for control of criteria pollutants include control of VOCs (NR 419-424) and PM (NR 415). Most sources which emit more than 10 tons per year and are located in an 18 county southeastern Wisconsin area, 100 tons elsewhere in the state, and certain other sources with emissions as low as 2 tons per year (other direct sources) are already controlling VOC emissions. Many of these sources have substituted the raw materials they use with less volatile raw materials, while others have installed incinerators, recycling systems, or other post process control devices to reduce VOC emissions. These devices also serve to reduce emissions of hazardous air contaminants which are VOCs.

Similarly, regulations already exist for process, fuel burning and fugitive sources of particulate matter. These sources typically use baghouses, electrostatic precipitators, cyclones or other post-process controls to reduce emissions of hazardous air contaminants which are particulates (although the relative control efficiency of these systems may not be the same for hazardous air contaminants as for general particulate matter).

Current regulation of hazardous pollutants is contained in NR 445. The general limitation contained in this section is not prospective in approach and historically has been applied after a hazardous situation has been identified. Three relatively recent examples of NR 445 enforcement includes an electroplating facility in Beloit which was limited for emissions of chromium, an incinerator in Arlington which was limited for emissions of hydrochloric acid, and an aluminum smelting operation in Manitowoc which was limited for emissions of hydrochloric acid due to local corrosive impacts.

Last, the proposed rules will have impacts in the control of hazardous air contaminants beyond those impacts which have resulted from limited EPA regulatory activity in this area. To date, the U.S. Environmental Protection Agency has imposed hazardous air pollutant emission standards for asbestos, beryllium, mercury and vinyl chloride only. Sources covered under these regulations will be exempt from regulation under the proposed rule.

B. Units of government, industries, organizations and other parties affected by the proposed rule.

Without a complete inventory of sources statewide for the hazardous air contaminants identified within the proposed rule it is impossible to specifically identify those units of government, industries, organizations and other parties which would be directly affected.

Any attempt to quantify the impacts of the proposed rule would require individual case-by-case analyses and would be extremely expensive and time consuming because of the large number of sources potentially subject to the rule. In an effort to obtain impact information the Bureau of Air Management conducted six public information meetings throughout the state in June, 1986, as well as,

three hearings on the proposed rule in Wausau, Milwaukee, and Madison in July 1987. In addition, the Bureau of Air Management in cooperation with the Wisconsin Association of Manufacturers and Commerce and the Federation of Environmental Technologists has engaged in a limited source assessment survey of 30 sources within the following industrial categories:

<u>Sources for Toxics Survey</u>	<u>SIC Codes</u>
Appliance Manufacturing	I 3631-3639
Asphalt Plant	I 2951
Automobile Manufacturing	I 3711
Chemical Manufacture	I 2819
Construction or Agricultural Equipment Manufacture	I 3523, 3524, 3531, 3537
Dry Cleaner	I 7216
Electrical Components	I 3671-3679
Food Processing - Brewing	I 2082
Food Processing - Meat Processing	I 2013
Food Processing - Yeast	I 2099
Foundry Iron - Cupola	I 3321
Foundry Iron - Electrical Melting	I 3321
Foundry Iron - Nonferrous Alloy	I 3361, 3362, 3369
Gas Station	I 5541
Incinerator - Municipal	I 4953
Incinerator - Pathological	I 8062
Industrial Boiler - Oil	I Any Large Boiler
Leather Coating	I 3111
Lime Kiln	I 3274
-Metal Plating	I 3471
Metal Products - Coating, Painting and Lubricants	I Major Group 34
Paper Making	I 2611, 2621
Pesticide Manufacture or Blending	I 2879
Petroleum Refining	I 2911
Plastics or Resin Manufacture	I 2821, 2822
Portland Cement Manufacture or Transshipment Point	I 3241
Power Plant - Coal	I 4911
Printing	I 2754
Wood Furniture	I 2511
Wood Products - Chip Board or Plywood	I 2431, 2492, 2499
Wood Stove	I NA

Although only including one source in each category, some inferences can be drawn from this survey. First, we believe the proposed rules will not significantly expand the number of sources required to obtain an air pollution control permit. Second, approximately half the sources analyzed in the survey at their potential to emit (24 hours per day/365 days per year) have the ability to exceed either the survey screening limit for acute hazardous contaminants or the pound year use limitations for carcinogens. For the majority of these sources simple process modifications, increases in stack height to prevent downwash conditions, or limiting hours of operation to less than the sources potential (yet more than current actual hours of operation) would be

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sufficient to reduce the impact to acceptable levels. Additionally, based on discussions with representatives of the Wisconsin Department of Agriculture, Trade and Consumer Protection; direct mailing of the draft rule; public information meetings; notice to agricultural associations; and public hearings; we do not anticipate that farmers will be directly impacted by the rule. Last, specific exemptions are provided within the rule for sources which combust virgin fossil fuel and have adequate stack heights, and, laboratories. Incinerators, however, which combust municipal solid waste, hospital waste or infectious waste are required to meet lowest available emission rate; whether they are new or modified sources or existing sources. These sources will not receive any de minimus emission rate permit exemption. This categorical treatment is included in an effort to minimize sources of dioxin emissions.

## V. Environmental Consequences

### A. Anticipated direct and indirect impacts on the physical and biological environment.

The proposed rule will result in emission reductions of acute and carcinogenic hazardous air contaminants from sources of these emissions which are of sufficient size to pose a threat to human health or welfare. The proposal will also aid in identifying situations, which, given the proposed limitations, have a potential to create adverse health and environmental impacts. The Department does not anticipate a massive increase in hazardous materials to be disposed of elsewhere (other media) since the largest sources of hazardous air contaminants typically already employ pollution control measures for criteria pollutants. Additionally, the Department anticipates that the proposed rules will not discourage incineration as a disposal method by raising the cost to incinerate to extreme levels, but will ensure incinerators meet minimum control efficiency standards. The Department anticipates no other discernible direct or indirect impacts on the physical or biological environment.

### B. Anticipated direct and indirect economic impacts.

See discussion in B above and fiscal note.

### C. Anticipated direct and indirect impacts on (1) social or cultural environments, (2) the regional availability of energy, and (3) other features not previously addressed.

The Department anticipates no discernible impacts on the social or cultural environments, regional availability of energy, or other direct or indirect impacts resulting from the proposed rules.

## VI. Alternatives and Their Impacts

### A. Impacts of not implementing the proposed rule.

The impact of not implementing the proposed rule would be a continuation of the present approach of enforcement after adverse health impacts had already been incurred. Thus the approach to

controlling hazardous air contaminants would be less prospective and comprehensive. New sources seeking to locate within the state would not have a uniform set of criteria to evaluate for permitting and siting decisions, and existing sources would be controlled only through resource intensive enforcement actions.

B. Major changes to the rule which would satisfy known or obvious concerns of interested parties.

Where possible, within its mission of protecting public health and the environment, the rule has been changed from its draft form to satisfy known or obvious concerns of interested parties expressed in comments received at and after public information meetings, and public hearings (see background memo "response to comment"). Subsequent to the public hearings, and at the request of Governor Thompson, staff of the Department met on 15 separate occasions with representatives of the Industry Air Coalition - Air Toxics Negotiating Committee. The later meetings included representatives of environmental interest groups as well. These meetings resulted in extensive modifications to the proposed rule in order to respond to and satisfy comments received at the public hearings. These modifications are discussed in an attachment (Response to Comments on Proposed Hazardous Air Contaminant Rules) to the background memo "response to comments".

C. Reasonable alternatives to the proposed rule.

The proposed rule is based on the recommendations of the Hazardous Emissions Task Force. The Task Force, in their deliberations, weighed and evaluated alternative approaches to hazardous air contaminant control and, made recommendations as to the design and construct of a hazardous air contaminant control program for the state.

In addition to considering the alternative approaches to control of hazardous substances taken by the U.S. Environmental Protection Agency and some other states, the Task Force explored the development of a methodology (incorporating appropriate safety factors based on the identified no observable adverse effect level [NOAEL]) and then having the Department apply this procedure to lists of chemicals and promulgate emission limits. Depending on the safety factors employed, such an approach would have likely resulted in emission limits lower than the limits proposed in this rule.

When this approach was presented to the Wisconsin Industry Air Coalition (early in the Task Force deliberation efforts) the Coalition expressed concerns regarding the "workability of this formula approach". The Coalition insisted that rather than applying a formula incorporating safety factors, a specific list of substances to be regulated and emission limits for those substances be prepared.

The rule as proposed for hearing and as now proposed for adoption, incorporates the listing and limits approach desired by the Coalition. Based on the Coalition's reaction, the Task Force discontinued further pursuit of the formula approach.

## CORRESPONDENCE/MEMORANDUM

State of Wisconsin

File Code: 8300

Date: February 18, 1988

To: Don Theiler - AM/3

From: Tom Steidl<sup>TS</sup> - LC/5Subject: Hearing Examiner's Report on Public Hearings Held on  
Proposed Rules in Natural Resources Board Order AM-9-87

The Department held three public hearings -- on July 14, 1987 in Wausau, July 15, 1987 in Milwaukee, and on July 16, 1987 in Madison -- to receive public comments on the proposed rule package. These rules revise the hazardous air contaminant criterion for determining whether a source is exempt from the requirement to obtain an air permit and specify emission limits for hazardous air contaminants.

One hundred sixty-two persons filed appearance slips at the 3 hearings: 36 in Wausau; 85 in Milwaukee; and 41 in Madison. Of the appearance slips filed, 5 persons appeared in support of the proposed rule, 104 appeared in opposition, and 53 registered "as interest may appear" or indicated no position on the proposed rule. Sixty-two persons gave oral statements at the 3 public hearings.

Stage 2

Of the 62 persons who spoke at the hearings, over half (32 persons) appeared solely in opposition to the provision in the proposed rule relating to gasoline marketing. (That provision requires DNR within 42 months after the effective date of the proposed rule to promulgate rules requiring gasoline marketing sources to install and operate Stage 2 vapor recovery systems on their gasoline pumps. The provision would be repealed if EPA in the interim has already required Stage 2 or on-board systems for vapor recovery in Wisconsin.)

Commenters representing gasoline retailers and oil jobbers opposed the implementation of Stage 2 vapor recovery systems for a number of reasons: the systems are too costly to install and operate (citing costs of \$10,000-15,000 per pump to install and \$500-800 a year to maintain); the costs would drive low volume retailers and small gas stations out of business, resulting in loss of jobs and payroll and gasoline storage capacity in the event of another oil shortage; closing small rural stations would force customers to drive further for gas, causing additional air pollution; reconstruction of station islands may be necessary to accommodate the systems; and the costs for these systems, along with the potential need to replace underground storage tanks may force financially insecure stations to borrow money to finance the systems or go out of business.

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Several persons stated that the bulky hoses were difficult to handle, especially for the elderly and physically impaired. Some suggested that since the system couldn't be used for filling gas cans, motorcycles or boats and were likely to result in more gasoline being spilled, the systems wouldn't achieve the reductions predicted. Noting that the systems were operable in only a few areas of the country, several people said that Stage 2 had not been tested in cold weather areas. One person noted that where the systems have been installed much of the equipment is inoperable. It was suggested that vapor control is not required in small communities or rural areas, but only in large urban areas. Several persons estimated that it would take up to 6 years to implement Stage 2 because of the retrofiting required. Others expressed concern about the cost and difficulty of enforcing the requirement. Retailers said that they couldn't monitor customer compliance and predicted that consumers (and some retailers) would find ways to avoid its use.

Many of those opposing Stage 2 systems said that on-board vapor control canisters on individual cars were preferable as a means of controlling gasoline vapors. They noted that the on-board systems were more effective in controlling vapors, thereby resulting in better air quality control, and the costs of the on-board systems (\$15-25 per vehicle) could be spread to more persons directly. A representative of oil jobbers suggested that an enhanced inspection and maintenance program or stricter regulation of fuel volatility, including a reduction in Reid vapor pressure for gasoline, were more effective means of reducing vapors than requiring Stage 2.

A representative from Citizens for a Better Environment noted that the Stage 2 provision of the rule incorporated a delay in implementation allowing additional time for compliance. She stated that the new generation of Stage 2 systems were lighter in weight than the earlier bulky systems. She suggested that Stage 2 may be required in southeastern Wisconsin by EPA in any event in order to address the ozone standard violations there. The Director of the Wisconsin Petroleum Council responded by saying that even if Stage 2 were implemented in southeast Wisconsin, the ozone transport from Illinois and Indiana would overwhelm any air quality improvements from the implementation of Stage 2.

#### Gasoline

Representatives from Amoco Corporation and the Wisconsin Petroleum Council said that it was inappropriate and premature to include gasoline on the list of suspected carcinogens. They claimed that this listing of gasoline was a deviation from the Task Force's listing criteria and contrary to the scientific and health data which is currently available. Both commenters suggested that gasoline should be removed from the Table 3 list of suspected carcinogens; the Petroleum Council spokesperson suggested that it would be appropriate for gasoline to be transferred from Table 3 to Table 1 - the list of acute toxics.

#### Ethylene Oxide

Representatives from several hospitals expressed concern about the proposed regulation of ethylene oxide, which is emitted from hospital sterilization systems. They noted that the substance is vented from hospitals to reduce the high level of exposure to hospital staff. Hospital representatives suggested that ethylene oxide be removed from the list of regulated substances until cost effective controls are developed for the substance because its regulation as a hazardous air contaminant would reduce the hospitals' ability to use sterilization (thereby resulting in more infections occurring) or the enormous costs of capture and control would be passed on to the medical consumer. One hospital spokesperson stated that the regulation of formaldehyde would cause similar problems for hospitals.

#### Incinerators

A representative of the City of Chilton expressed concern about the adverse impact on the proposed rule on municipal waste incinerators. Citing Chilton's costly efforts to construct, operate and maintain its incinerator as an alternative to landfilling, the city's spokesperson said that imposing additional restrictions on incinerators to control air toxics may cause municipal waste incinerators to close -- resulting in additional landfill costs.

#### Economic Development

Department of Development Secretary Bruno Mauer expressed concerns about the potential impact of the proposed rule on economic development. He stated that Wisconsin industry recognizes the importance of air quality and protection of environmental resources, but cautioned that there must be a relationship between reasonable air regulations and economic vitality. He referred to industry's participation in the Task Force and its continuing efforts to work with DNR on modifications to the rule as evidence of business' concerns for the environment and the impact of air toxic rules on the economy. He urged DNR to continue to work with business and EPA in order to develop reasonable rules in a timely manner which will protect public health and the environment, without adversely impacting the economic vitality of the state.

#### Environmental Agencies/Organizations

The air toxics coordinator from EPA Region 5 cited a 1986 study showing that air toxics pose a potential for increased health problems in urban areas as the basis for EPA's commitment to have air toxic programs in each state. She expressed her support for Wisconsin's effort to control air toxics.

Representatives from Citizens for a Better Environment and the John Muir Chapter of the Sierra Club spoke in support of the proposed rule. Citing the results of air toxics studies in Lake Michigan and the Great Lakes which showed that air toxics loading had caused contamination, the environmentalists said that there was a demonstrated need for air toxics regulations. They expressed concern about the effects of air toxics on human health, wildlife, forests and fisheries.

In evaluating the proposed rule, environmentalists noted that it is consistent with the federal reporting requirements in the Superfund law and right-to-know regulations and the control requirements being considered for federal air toxics regulations. Environmentalists said that Wisconsin's proposed rule was scientifically sound since it was based on data developed by nationally recognized organizations. They suggested that the use of threshold limit values and reliance on control technology-based limits, in lieu of case-by-case risk assessment analysis of each substance and each source was consistent with air toxics programs which other states are implementing and developing. One spokesperson for CBE noted that the proposed rules will require industry to look closely at their operations and monitor air toxic emissions from their sources, while providing sufficient flexibility within the rule. He noted that DNR's survey of 30 sources indicated that only 10% of the sources surveyed would be required to control hazardous emissions.

Representatives from environmental organizations recommended several modifications to the rules: rules should have a mechanism to account for the cumulative impact of toxics (multiple pollutants from multiple sources); proposed rule should restore DNR's general authority to regulate hazardous air contaminants; listings for certain specific substances should be revised; rules should focus on other impacts of toxics (i.e., neurologic, mutagenic and teratogenic abnormalities) in addition to the concern for carcinogenic effects; no consideration should be given to stack height increases as a solution to air toxic problems; and the rule needs a mechanism to bring the lists of regulated substances up-to-date on a continuing basis.

#### Industry Concerns

Representatives from individual companies commented on specific aspects of the proposed rule and the potential impacts on their companies' operations. In addition, representatives of business organizations and trade associations commented on the proposed rule.

A representative from Briggs and Stratton criticized the proposed rule because it would impose a great administrative burden on industry and the DNR, both in terms of the costs and time of obtaining a permit for process changes and of installing and modifying process equipment and pollution controls. He estimated that his company would need to spend \$5 million for controlling pollution under the proposed rule, most of which would be spent to control gasoline. He said that the list of carcinogens was obsolete and that risk factors were not adequately addressed in the list. He suggested that the permitting requirements be replaced by reporting requirements; that the exemption levels be raised; and that regulations address only human carcinogens.

A representative of John Deere Horicon Works said that the proposed rule appeared to be excessive regulation since the rules were not responding to an identified problem. He stated that the costs of control equipment and stack tests to determine compliance with the proposed rule would be excessive. He claimed that changes at his company would be curtailed because re-permitting would be required.

He suggested that carcinogens be regulated first and then an inventory of other hazardous contaminants be developed before further regulation of non-carcinogenic substances (on a case-by-case basis) occurred.

A representative of Milsolv Company suggested that DNR use its resources to inform companies of the pervasive reporting requirements of Title III of SARA and then use that inventory data to determine whether regulation of hazardous air contaminants is necessary.

The spokesperson for the United Foundrymen of Wisconsin expressed concerns that the control equipment which foundries had installed at great cost to control criteria air pollutants would be insufficient to meet the requirements of the proposed rule. He said that the rule was legally and technically deficient because it exceeded DNR's statutory authority; it represented a shot in the dark approach by requiring controls without a comprehensive inventory; and the rules relied on unrealistic modeling, unscientific use of TLVs and some erroneous classifications of substances, inconsistent with EPA's lists.

A representative of the Wisconsin Paper Council expressed the Council's commitment to environmental protection and support for scientifically sound regulation of potentially hazardous substances. He said that the Council did not support the rule as proposed and suggested several changes to the rule: a comprehensive inventory of hazardous air emissions must be conducted in Wisconsin before regulations are adopted; regulation should be based on actual controlled emissions, not uncontrolled emissions or use of a substance; credit should be provided for the effects of the actual stack height in establishing emission rates; air permits should not be required solely because a source emits hazardous air contaminants; this rule should be coordinated with other state and federal regulations of hazardous substances (e.g., Title III of SARA); and certain administrative issues should be addressed through changes in the rule.

The president of the Wisconsin Utilities Association said that his association supports the beginning efforts to regulate hazardous air contaminants, but does not support DNR's specific approach. He said there must be a scientific assessment of risk before any regulations can be supported. He criticized the proposed rule because it arbitrarily listed 494 substances taken from lists which were not developed for purposes of controlling air contaminants and sets limits on inappropriate criteria. He suggested that compliance with the requirements would pose onerous administrative burdens on sources changing coatings or undertaking research and development projects. He stated that establishing control requirements on the basis of use and allowing no consideration of costs in controlling carcinogens was inappropriate. Calling the proposed rule the strictest in the nation, he called for a more reasonable approach to hazardous emission regulation.

Representatives of Wisconsin Manufacturers and Commerce said that Wisconsin should adopt scientifically sound rules. Saying that the

Task Force did the best job they could, WIC representatives stated that deficiencies in the rule identified in the public hearings and the rulemaking process should be corrected. The WIC president said he applauds DNR for its preventative action and its concerns about known human carcinogens, but he cannot support the regulation of 494 substances -- among the most stringent in the nation -- when no scientific basis exists for regulation. WIC representatives claimed that the selection of compounds to be regulated was arbitrary, without any relationship to ambient problems. They criticized the use of TLVs as the basis of regulation; said that fugitive emission should be excluded from regulation; and complained that the compliance requirements would be lengthy and costly and would impose a significant administrative burden for relatively simple changes. WIC representatives stated that control requirements should be based on actual emission levels rather than potential or allowable emissions. They expressed support for the position of the Wisconsin Industry Air Coalition and suggested that DNR regulate known carcinogens based on risk assessments now and then inventory other identified substances and establish a committee to consider the effects of those substances prior to adopting subsequent regulations.

#### Wisconsin Industry Air Coalition

Several person spoke on behalf of the Wisconsin Industry Air Coalition, a consortium of industries and environmental engineers. On their behalf, a partner in the national consulting firm of Dames and Moore reported on a survey he conducted of states' toxic air pollution programs and his comparison of those programs with that proposed for Wisconsin in the proposed rule. He stated that only 3 states regulate a larger number of carcinogens than Wisconsin; Wisconsin is the only state to regulate carcinogens regardless of cost; and Wisconsin's proposed regulation for noncarcinogens is the 3rd most stringent of any state. Citing the large number of substances covered, the applicability to new and existing sources, the high levels of control required (regardless of cost), and the low levels of ambient concentrations allowed, he concluded that the proposed rule would make Wisconsin's hazardous air contaminant program one of the most stringent in the nation.

A doctor at the Medical College of Wisconsin said that the rules lack a scientific foundation and criticized the use of TLVs as the basis for regulation. Claiming that there had been no showing that public health has been affected by hazardous air contaminants in Wisconsin or that public health will be improved by the rules, he recommended the regulation of human carcinogens only.

Other industrial health professionals and toxicologists warned against the use of TLVs as the basis for regulating ambient concentrations of hazardous air contaminants. They noted that the TLVs were established as guidelines for safe workplace habits for healthy workers on a 40 hours per week exposure level and were not designed for setting standards for the ambient air for the general public, healthy or not, or for nonhuman effects. Assigning safe ambient concentrations of basis of TLVs, even with the inclusion of a safety factor is an

inappropriate measure, they claimed. The result of using TLVs or a standard list of substances developed for other purposes is that the regulation may include inappropriate substances and not include appropriate substances and may be too lenient or too strict for ambient purposes for specific substances. Because of the drawbacks of the generic approach adopted in the proposed rule and in the absence of evidence of adverse effects in Wisconsin from substances on the list, these experts recommend that Wisconsin first develop an inventory of the toxic emissions in the state and analyze what the effects of the emission are; then, based on this analysis and the recommendations of a committee of Wisconsin toxicologists and health experts who would do a health assessment for each substance, Wisconsin should then establish ambient standards for toxics emissions, using a risk management approach. One industrial health expert also recommended deleting metal fumes from any regulation because of the short existence of such emissions.

A former EPA assistant administrator for air programs, appearing on behalf of the Wisconsin Industry Air Coalition, offered some suggestions for constructing a reasonable and effective air toxics program. He said that an effective program must protect public health and welfare, must require only those control costs necessary to protect public health and welfare, and the requirements must be implementable, enforceable and equitable in their application. He advocated risk assessment and risk management as the best approach to regulation, even though such a program would be complicated, time consuming and costly. In reviewing Wisconsin's proposed rule he noted that use of a substance should not equate with emissions of that substance. He said that listing of substance on a table avoids a substance by substance determination; if tabling is used for regulation, he suggested that a mechanism be provided to allow a source to challenge a listing. He recommended that additional guidelines be provided for sources on modeling, source testing, emission factors for determining emissions and their ambient impact, and the economic infeasibility test for a variance. He noted that several aspects of the proposed rule were unclear -- are fugitive emission included?; is a source required to control to the most stringent compound emitted? He suggested that the resources identified for implementation of the rule were insufficient to accomplish the task and the time period provided for compliance may not be sufficient. Claiming that existing programs to control other criteria pollutants have resulted in substantial reductions of hazardous air contaminants, he suggested that DNR proceed toward regulation cautiously, going after significant sources first and using a pre-screening or inventory/reporting system, in lieu of permits.

A copy of the tape recordings and appearance slips, as well as written copies of several of the statements made at the public hearings are available for your review.

**SUBJECT:** Adoption of revisions to Sections NR 406.04, NR 407, and NR 445, Wisconsin Administrative Code, pertaining to revision of emission limitations, compliance requirements, and permit exemption criteria for sources of hazardous air contaminants.

**FOR** APRIL 1988 **BOARD MEETING**  
(month)

**TO BE PRESENTED BY:** Donald F. Theiler  
James S. Rickun

**SUMMARY:**

These rules are essentially the same rules which were originally proposed for adoption in February, 1988. The rules revise the hazardous air contaminant criteria for determining whether new or modified sources and existing stationary sources of air pollution are exempt from requirements to obtain air pollution control permits. The revisions specify emission rates (in pounds per hour) for acute contaminants and annual emission rates (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.

Emission limitations (expressed as ambient concentration impacts) are established for acute contaminants, and two control technology levels are proposed for sources which emit more than specified amounts of known or suspected carcinogens. A more restrictive technology would be required for the emissions of known human carcinogens.

The revisions establish delayed compliance dates for existing sources subject to the emission limits. Six definitions, specific to this chapter of administrative code, are also included.

Last, these revisions incorporate a review procedure for modifying acceptable ambient concentrations for acute contaminants, adding or deleting contaminants, and reviewing requests for an alternate emission limit for acute contaminants emitted on a limited basis.

**RECOMMENDATION:**

The Board adopt revisions to NR 406.04, NR 407, and NR 445, Wisconsin Administrative Code, pertaining to revisions of emission limitations and permit exemption criteria for sources of hazardous air contaminants.

**LIST OF ATTACHED REFERENCE MATERIAL:**

- No  Fiscal Estimate Required
- No  Environmental Assessment or Impact Statement Required
- No  Background Memo

- Yes  Attached
- Yes  Attached
- Yes  Attached

**APPROVED:**

<i>Tom Smith</i>	4/8/88
Bureau Director	Date
<i>Lyman F. Will</i>	4/8/88
Administrator	Date
<i>W. Bessey</i>	4/8/88
Secretary	Date

cc: T. Steidl- LC/5  
C. Turner- LC/5  
M. Penner- LC/5  
J. Scullion - AD/5  
P. Kanable - AM/3

# CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

DATE: April 8, 1988

FILE REF: 4500

TO: C. D. Besadny - AD/5

FROM: Donald Theiler - AM/3

SUBJECT: Status of Attempts to Resolve the Outstanding Issues on the Hazardous Air Emissions Rules

At the February Natural Resources Board meeting, staff presented the proposed hazardous air emission rules. These rules were the result of seven years of task force work and the rule negotiation involving the Department, the Industry Air Coalition, and concerned environmental groups. At the February meeting staff identified eleven issues which were still unresolved among the interested parties. The Board tabled the rule proposal until the April Board meeting to allow the parties to try to resolve the eleven outstanding issues. Staff were directed to continue discussions until March 31, and then to finalize a recommendation to the Board in a Green Sheet on April 6.

Since the February Board meeting we have held nine separate meetings in efforts to resolve these issues. The meetings were held on the following dates:

1. March 8, 1988
2. March 10, 1988
3. March 15, 1988
4. March 25, 1988
5. March 29, 1988
6. March 31, 1988
7. April 4, 1988
8. April 5, 1988
9. April 6, 1988

Because it appeared that substantial progress was being made, you gave your permission to extend our discussions until April 6. Despite the exhaustive evaluation of the issues and the significant efforts by all parties to find common ground, and because resolution of any of the eleven issues depended on resolution of all issues, on April 6 we still did not have agreement. Accordingly, there remain eleven unresolved issues for the Board to consider in addressing this rule proposal.

The status of these issues follows:

1. SERVICE STATION EXEMPTION

a. Status in February

i. Industry Request:

A desire has been expressed by industry to exempt gasoline service stations from regulation as it relates to benzene emissions, a known human carcinogen.

ii. Staff Position:

All sources regardless of category who emit more than 300 pounds of benzene per year would be required to institute lowest achievable emission rate technology. It is our understanding that only very large service stations may be potentially affected by this rule. Those would be service stations pumping more than one and a half million gallons of gasoline per year if they have load-in (Stage 1) vapor recovery equipment of one million gallons per year if they lack this load-in vapor recovery equipment. There is no reason to provide a blanket exemption for these very large stations (estimated to not exceed 4 percent of all the stations in the state) and it is, therefore, not recommended.

b. Subsequent Developments

The portion of the rule which relates to service station exemptions was clarified in one regard: service stations which install Stage 1 vapor recovery at any time will be exempt from the requirements to install Best Available Control Technology (BACT) or Lowest Achievable Emission Rate (LAER) technology, as long as their throughput remains below 1.5 million gallons per year; and stations which pump more than the amounts listed in the service station exemption portion of the rule will also be exempt if they can show that they are below the deminimus emission rates provided in the general provisions of the regulation.

These modifications still do not appear to meet the concerns of the large service station owners. They will still be required to install control equipment under the proposed rule.

2. WOOD AND BLACK LIQUOR EXEMPTION

a. Status in February

i. Industry Request:

A desire has been expressed on the part of industry to exempt facilities burning wood and/or "black" liquor derived from the wood pulping process from the requirement to apply for a permit.