

Report From Agency

REPORT TO LEGISLATURE

NR 406, 407 and 445, Wis. Adm. Code
Hazardous air pollutant emissions associated with
agricultural waste and affecting small business

Board Order No. AM-24-07
Clearinghouse Rule No. 07-076

Basis and Purpose of the Proposed Rule

This proposal is to extend the compliance deadline to July 31, 2011, for air permit and hazardous air pollutant requirements associated with agricultural waste, under chs. NR 406, 407, and 445.

In addition, this proposal includes the following minor technical corrections to ch. NR 445:

- Streamlining the applicable requirements to ensure clarity for the regulated community. An obsolete subchapter is proposed to be repealed and the remaining subchapter renumbered. The remaining subchapter will continue all currently applicable requirements.
- Table A is proposed to be amended to list the annual standards for Butyl Cellosolve, 2-Butoxyethanol, and EGBE. Emission thresholds, standards and control requirements for all sources of hazardous air contaminants are established in Table A of ch. NR 445. These three chemical names, Butyl Cellosolve and 2-Butoxyethanol, and EGBE are synonyms for the same chemical compound. The fourth chemical name for this same chemical compound is Ethylene Glycol Monobutyl Ether. The current version of Table A lists all four chemical names. However, the annual standards are only listed under Ethylene Glycol Monobutyl Ether. The proposal is to list the same annual standards under the synonym names as well. These four compounds and the associated Table A values are identical. The addition of the annual standards for the three synonyms to Table A serves merely to clarify the existing applicable requirements; it does not represent the addition of new compounds or standards to the table.
- Table A is proposed to be amended to clarify the listings for chromium.
- Rule language is proposed to be amended to remove incorrect references to two federal standards related to Tier 2 nonroad engines.
- Rule language is proposed to be amended to reflect the adoption of federal standards for Tier 4 nonroad engines. This change does not affect applicable emission standards; the new federal particulate emission standard for Tier 4 nonroad engines regulated under ch. NR 445 (100 horsepower and larger) is the same as the 0.01 grams per brake horsepower-hour particulate emission standard referenced in the current version of ch. NR 445. This change was anticipated during the original development of this portion of the rule, but the federal standard had not yet been adopted at that time.
- A style change is proposed for each table in NR 445, specifically each entry is proposed to be numbered sequentially. This will facilitate future updates to these tables.

Summary of Public Comments

On September 10, 2007, the Department conducted a public hearing in Madison, WI on the proposed rule changes. Five people attended the hearing. Oral comments in support of the proposed rule were provided by Wisconsin Cattlemen's Association, Wisconsin Pork Association, Dairy Business Association, Wisconsin Farm Bureau Federation. Oral comments in opposition to the proposed rule were provided by Midwest Environmental Advocates and Centerville Citizens for Air, River, and Environmental Solutions (Centerville CARES). Additionally, written comments in support of the rule were received from Wisconsin Cattlemen's Association, Wisconsin Pork Association, Wisconsin Farm Bureau Federation, Gold'n Plump Poultry, Dairy Business Association, Midwest Environmental Advocates, and Centerville CARES.

On June 18, 2007, the following organizations submitted a letter to the Natural Resources Board in support of the proposed rule: Wisconsin Cattlemen's Association, Wisconsin Pork Association, Wisconsin Farm Bureau Federation, Dairy Business Association, Jennie-O Turkey Store, Inc., and Gold'n Plump Poultry.

The comments and the Department's response are included in Attachment 1.

Modifications Made

No modifications were made as a result of the public hearing.

Appearances at the Public Hearing

In support:

Ron Kuehn, WI Cattlemen's Assoc., WI Pork Assoc., 2 E Mifflin, #6, Madison, WI
Shawn Pfaff, Dairy Business Association, 22 N. Carroll St., Suite 200, Madison, WI 53703
Jeff Lyon, Wisconsin Farm Bureau, 1241 John Q. Hammons Drive, Madison, WI

In opposition:

James N. Saul, Midwest Environmental Advocates, 551 W. Main Street, Suite 200, Madison, WI 53703

As interest may appear - none

Changes to Rule Analysis and Fiscal Estimate

No changes were needed

Response to Legislative Council Rules Clearinghouse Report

The Rules Clearinghouse did not have any comments or recommendations on the proposed rule.

Final Regulatory Flexibility Analysis

A. Identify and discuss why the rule includes or fails to include any of the following methods for reducing the impact on small business.

1. Less stringent reporting requirements.
Not applicable. This proposal to extend compliance deadlines does not impose any new reporting requirements.
2. Less stringent schedules or deadlines for compliance or reporting requirements.
This proposal to extend compliance deadlines does not impose any new compliance or reporting requirements. The extended deadlines provide a less stringent schedule for all affected facilities, including small businesses. The Department believes that the proposed deadline extension provides sufficient time for affected sources to achieve compliance.

3. Consolidation or simplification of compliance or reporting requirements.
Not applicable. This proposal to extend compliance deadlines does not include any new compliance or reporting requirements for small business.
 4. The establishment of performance standards in lieu of design or operational standards.
Not applicable. This proposal to extend compliance deadlines does not include any new design or operational standards. The existing rule establishes several compliance alternatives available to small business including performance standards and best management practices.
 5. The exemption from any or all requirements of the rule.
Not applicable. This proposal to extend compliance deadlines does not establish any new requirements for small business. The existing rule includes exemptions and compliance alternatives available to small business.
- B. Summarize the issues raised by small business during the rule hearings, any changes made in the proposed rule as a result of alternatives suggested by small business and the reasons for rejecting any alternatives suggested by small business.
None.
- C. Identify and describe any reports required by the rule that must be submitted by small business and estimate the cost of their preparation.
Not applicable. This proposal to extend compliance deadlines does not include any new reporting requirements for small business.
- D. Identify and describe any measures or investments that small business must take to comply with the rule and provide an estimate of the associated cost.
Not applicable. This proposal to extend compliance deadlines does not establish any new requirements for measures or investments by small business.
- E. Identify the additional cost, if any, to the state in administering or enforcing a rule which includes any of the methods listed in A.
None. This proposal to extend compliance deadlines will not result in any additional costs to the state.
- F. Describe the impact on public health, safety and welfare, if any, caused by including in the rule any of the methods listed in A.
This proposal to extend compliance deadlines does not change any applicable requirements, it merely delays implementation. The Department does not have information documenting hazardous air emissions associated with agricultural waste that would result in ambient concentrations in excess of hydrogen sulfide and ammonia standards established in ch. NR 445.

Attachment 1
Department of Natural Resources Response to Public Comments on
Proposed Revisions to chs. NR 406, 407, and 445, Wis. Adm. Code
Board Order AM-24-07

Overview

The Natural Resources Board authorized public hearings on the proposed extension of the air permit and compliance deadlines for hazardous air pollutant emissions associated with agricultural waste, along with several minor technical corrections. A public hearing was held in Madison, Wisconsin on September 10, 2007. The public comment period ended on September 14, 2007.

At the hearing on September 10, 2007, oral comments in support of the proposed rule were provided by Wisconsin Cattlemen's Association, Wisconsin Pork Association, Dairy Business Association, Wisconsin Farm Bureau Federation. Oral comments in opposition to the proposed rule were provided by Midwest Environmental Advocates and Centerville Citizens for Air, River, and Environmental Solutions (Centerville CARES).

Additionally, during the public comment period, written comments in support of the proposed rule were received from Wisconsin Cattlemen's Association, Wisconsin Pork Association, Wisconsin Farm Bureau Federation, Gold'n Plump Poultry, Dairy Business Association; and written comments in opposition to the proposed rule were received from Midwest Environmental Advocates and Centerville CARES.

On June 18, 2007, the following organizations submitted a letter to the Natural Resources Board in support of the proposed rule: Wisconsin Cattlemen's Association, Wisconsin Pork Association, Wisconsin Farm Bureau Federation, Dairy Business Association, Jennie-O Turkey Store, Inc., and Gold'n Plump Poultry.

On July 25, 2007, the Legislative Council Rules Clearinghouse reported to the Department on its review of this proposed rule. The Council made no comments.

No changes to the proposed rule revisions were made in response to comments received.

Comments and Responses

Included below are descriptions of the organizations that provided comments in opposition to the proposed rule revisions, the comments they provided, and the Department's responses. Oral comments in opposition were similar to the written comments in opposition.

Centerville CARES is a citizen's group based in Manitowoc County, with approximately 100 members. It was formed in 2003 in response to concerns about a local livestock operation, Maple Leaf Dairy. As posted on this organization's web site, Centerville CARES's goals are to address the water pollution in Lake Michigan, promote responsible land use and sustainable agriculture in northeastern Wisconsin, and find solutions to complex environmental problems.

Midwest Environmental Advocates, Inc. (MEA) is a nonprofit environmental law center that provides technical assistance and legal representation to communities and groups working to protect the public's right to clean air and water. The stated mission of MEA is to provide high quality legal services that support a multicultural, grassroots social movement; build local leadership; and implement innovative solutions to environmental problems. MEA is guided by a six-member Board of Directors, and operated by approximately eight staff, and several interns.

Comment from Centerville CARES: The members of Centerville CARES, a citizen's group based in Manitowoc County, are disappointed by the intent of WDNR to delay by four years implementation of ammonia emission rules associated with agricultural waste. Our organization acted in good faith to settle litigation concerning ammonia emissions from Maple Leaf Dairy because of our belief that action to protect our health and environment would be taken by WDNR. That belief has been betrayed.

Response: On July 26, 2005, the Department performed an air dispersion modeling analysis of the estimated ammonia emissions from Maple Leaf Dairy. The results of that analysis demonstrated that the ambient air quality standards for ammonia established in ch. NR 445 would be attained and maintained, assuming the emission rates and stack parameters included in the analysis. The ambient concentration standards in ch. NR 445 are established at levels protective of public health.

Furthermore, the Department does not have information documenting hazardous air emissions associated with agricultural waste that would result in off-property ambient concentrations in excess of hydrogen sulfide and ammonia standards established in ch. NR 445.

The Department is not aware of any court decisions or settlement agreements involving Centerville CARES and Maple Leaf Dairy, other than Judge Deets' Order for Judgment of August 10, 2005, and his oral rulings of June 9 and July 25, 2005, in *Centerville CARES, et al. v. Department of Natural Resources Case No. 04-CV-584*. In brief, Judge Deets found that the record was insufficient with respect to the air and water impacts of the proposed Maple Leaf Dairy expansion, and so he ordered the WPDES permit "stayed" and remanded the case to the Department for further proceedings, essentially requiring the Department to re-do the Environmental Assessment. The Department followed through consistent with the Judge's order. With regard to the air impacts, the subsequent Environment Assessment included an estimate of ammonia emissions from Maple Leaf Dairy and an air dispersion modeling analysis of the off-property impact of those emissions. As noted above, the analysis demonstrated that the ambient air quality standards for ammonia established in ch. NR 445, would be attained and maintained, assuming the emission rates and stack parameters listed in the analysis. Nothing in Judge Deets' Order for Judgment and oral rulings is contingent on the compliance deadlines in ch. NR 445 that Department now proposes to extend.

On August 23, 2003, Centerville CARES filed a 60-day notice of intent to sue Maple Leaf Dairy for violations of the Federal Clean Air Act. Centerville CARES did not file a complaint in that matter.

Comment from Centerville CARES: I live near Lake Michigan and see every day the effects of excess nutrient from ammonia conversions that accelerate the detrimental effects of Cladophora. The health of local residents is put at risk every day by the air pollution from the local factory farm – it doesn't take a whole lot of study and education to understand that stink is nature's warning and not to be ignored.

Response: The proposed extension of the air permit and compliance deadlines for hazardous air emissions associated with agricultural waste does not directly affect nutrient run off and water quality.

The odor thresholds for both hydrogen sulfide and ammonia are lower than the acceptable ambient concentration standards established in ch. NR 445. This means that there may still be detectable odors of hydrogen sulfide or ammonia near a livestock operation that complies with the acceptable ambient concentration standards in ch. NR 445.

The Department does not have information documenting hazardous air emissions associated with agricultural waste that would result in off-property ambient concentrations in excess of hydrogen sulfide and ammonia standards established in ch. NR 445.

Comment/Question from Centerville CARES: What were the original milestones and dates for the WI analysis of agricultural ammonia emissions?

Response: The grant agreement with United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS) for the Conservation Innovation Grant (CIG) project, WI Dairy and

Livestock Air Quality and Odor Project, was signed by Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) on October 18, 2005. The project timeline included pre-construction of best management practice (BMP) air sampling and odor sampling in 2006 and 2007, and post-construction of BMP sampling in late 2007 and 2008. The BMPs are either already existing (two manure digesters), or a being constructed in the late fall of 2007 or early spring 2008.

Comment/Question from Centerville CARES: What has been learned from the WI study thus far?

Response: We have not yet completed the "pre" sampling, and do not anticipate any final findings until late 2008.

Comment/Question from Centerville CARES: What monies have been spent thus far and from what sources?

Response: As of September 2007, about \$110,000 of the grant funds from USDA NRCS have been spent related to the BMPs. In addition, DNR and DATCP have spent a total of about \$ 138,000 in state funds through June 30, 2007, primarily for costs to collect and analyze the air emission and odor samples for the projects.

Comment/Question from Centerville CARES: Is the WI study now on schedule?

Response: Yes, however, one of the six projects to analyze air quality and odors has been cancelled by the producer (dairy heifer lot). Instead, the state is working with another producer already cooperating with the project to install an impermeable manure storage cover. The cover will not likely be installed, if approved, until early spring 2008.

Comment/Question from Centerville CARES: Will there be public notice if the WI study plan dates slip?

Response: The grant agreement with USDA NRCS does not allow any extensions to the project and so the Wisconsin study will end on September 30, 2008. A final report is required to be completed by January 1, 2009.

Comment/Question from Centerville CARES: Is the federal study on schedule?

Response: Based on the following information it appears that the federal study is progressing on schedule.

The federal study began in 2006; field monitoring began in summer 2007. Results are expected to be publicly available by mid-2010.

Purdue University is the Independent Monitoring Contractor for this study. An October 14, 2007 posting on the Purdue University web site provides the following study updates. For the barn monitoring portion of the study, 80% of over 2,300 sensors are installed to data acquisition systems, ten sites are collecting and transmitting valid emissions data, and daily review of this data by Purdue's data analysis has begun. With regard to the area source monitoring portion of the study, the first round of measurements has started at six of nine sites. (The study involves monitoring at 22 farms, including 1 Wisconsin dairy farm.)

On July 17, 2007, a decision by the United States Court of Appeals for the District of Columbia Circuit upheld the federal consent agreement that provides the framework and funding for this study.

Comment/Question from Centerville CARES: Will the WDNR provide public notice if there is any further delay in the federal study?

Response: Periodic updates on the federal study are publicly available via the US EPA and Purdue University web sites.

Comment/Question from Centerville CARES: Who do we contact to find status information while the study proceeds?

Response: For information on the state study, contact Eileen Pierce, DNR SCR Air & Waste Leader, 3911 S. Fish Hatchery Rd., Fitchburg, WI 53711, (608) 275-3296, eileen.pierce@wisconsin.gov.

Information about the federal study is posted on the following web sites:

- <http://www.epa.gov/compliance/resources/agreements/caa/cafo-agr-0604.html>
- <http://cobweb.ecn.purdue.edu/~odor/NAEMS/>

Comment from Centerville CARES: We are disappointed by the May 24 background memorandum from Secretary Hassett for this hearing describing who will be affected by the rule. He makes mention that the polluters will be affected, but neglects the fact that we as citizens breathing the air he is sworn to protect will also be affected.

Response: The Department does not have information documenting hazardous air emissions associated with agricultural waste that would result in off-property ambient concentrations in excess of hydrogen sulfide and ammonia standards established in ch. NR 445.

Comment from MEA: DNR has had sufficient time to study a variety of BMPs for purposes of NR 445. It need not wait until the conclusion of the two studies mentioned in the rulemaking documents before it can implement one or more BMPs. Nothing in the present version of NR 445 expressly or impliedly relies on any specific studies as a reason for the 36-month exemption for sources of hazardous air pollution association with agricultural waste.

Response: The Department is aware of the various BMPs adopted by other state and local regulatory agencies.

The implementation of BMPs as approved by the Department is just one of several compliance options available under ch. NR 445. For example, if an owner/operator is able to demonstrate compliance through a dispersion modeling analysis, then no further action is needed.

The Department anticipated obtaining data from ongoing state and federal air monitoring studies in time to support rule implementation. Lacking these study results, the Department currently does not have as much information as it intended to form a sound basis for decisions on rule applicability and criteria for evaluation of best management practice proposals. In light of this, the proposed compliance deadline extension to July 31, 2011, is necessary to ensure appropriate implementation of air permit requirements and hazardous air pollutant emission requirements for new and existing sources of emissions of hazardous air contaminants associated with agricultural waste.

Furthermore, implementation of state requirements ahead of the federal timeline was not intended during the original development of these requirements. The proposed extension of the compliance deadline to July 31, 2011, will allow affected sources to develop compliance plans for both federal and state requirements in a coordinated fashion.

Comment from MEA: DNR should establish a firm timeframe for the approval of BMPs, and the removal of the exemptions for agricultural waste sources, that has clear interim benchmarks, and is independent of external factors such as ongoing research and study.

Response: The proposed rule would establish a firm deadline of July 31, 2011. No interim benchmarks are proposed for inclusion in the rule.

Comment from MEA: DNR should review the BMPs in use or recommended by other State agencies or research universities, and expeditiously approve one or more BMPs for purposes of NR 445.

Response: In preparation for implementation of the air permit and compliance requirements for hazardous air emissions associated with agricultural waste, the Department will take into consideration information available on BMPs, including but not limited to those in use or recommended by other State agencies or research universities.

Note, BMPs are not the only compliance option available to sources of hazardous air emissions associated with agricultural waste. Chapter NR 445 establishes ambient air standards for specific hazardous air pollutants, off the source's property. The acceptable ambient concentration for two hazardous air pollutants typically associated with animal feeding operations, ammonia and hydrogen sulfide, are 418 and 335 micrograms per cubic meter, respectively, both on a 24 hour average basis. The compliance demonstration options provided in this rule include demonstration that stack emissions are below table values in the rule, or demonstration via air dispersion modeling analysis that impacts are below the acceptable ambient concentration standards in the rule, or use of best management practices as approved by the Department. This last option is available only for sources of hazardous air emissions associated with agricultural waste. However, such sources are not limited to the BMP compliance option, but may instead choose another option in the rule as they see fit.

Comment from MEA: DNR should commit to evaluating not only the potential use of Green Tier Environmental Management Systems (as provided in section 4.F. of the proposed Dairy Business Association Green Tier Charter), but also the many BMPs that are currently available and scientifically proven, so that it may implement chs. NR 406, 407, and 445 as applied to agricultural sources by January 1, 2008.

Response: The Department is taking this suggestion into consideration as negotiation of the voluntary Green Tier Charter with the Dairy Business Association continues. The voluntary Green Tier Charter provides a unique opportunity to explore the suggested pilot of BMPs on an accelerated timeframe. The public comment period on the draft Charter ended on September 7, 2007. A public hearing was held in Stevens Point on August 21, 2007. At the current pace, it is possible that this Green Tier Charter could be approved as early as the end of November 2007.

Comment from MEA: DNR should not delay the implementation of chs. NR 406, 407, and 445 pertaining to sources of emissions of hazardous air contaminants associated with agricultural waste until July 31, 2011, as it proposes. An additional four year delay, following on the heels of a three year exemption, ignores the present availability of effective BMPs and continues to risk unnecessary exposure to ammonia and hydrogen sulfide.

Response: As noted above, the Department anticipated obtaining data from ongoing state and federal air monitoring studies in time to support rule implementation. Lacking these study results, the Department currently does not have as much information as it intended to form a sound basis for decisions on rule applicability and criteria for evaluation of best management practice proposals. In light of this, the proposed compliance deadline extension to July 31, 2011, is necessary to ensure appropriate implementation of air permit requirements and hazardous air pollutant emission requirements for new and existing sources of emissions of hazardous air contaminants associated with agricultural waste.

Furthermore, implementation of state requirements ahead of the federal timeline was not intended during the original development of these requirements. The proposed extension of the compliance deadline to July 31, 2011, will allow affected sources to develop compliance plans for both federal and state requirements in a coordinated fashion.

The Department does not have information documenting hazardous air emissions associated with agricultural waste that would result in off-property ambient concentrations in excess of hydrogen sulfide and ammonia standards established in ch. NR 445.