

Air Emissions and Regulatory Limits Protecting the Public Health:
A matter of trust

Prepared for the Planning and Zoning Committee Hearing on Didion
Milling's Application for a Conditional Use Permit to Build an Ethanol
Plant in Town of Courtland

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Overview

Air emissions are a issue critical in the siting of a facility such as the ethanol plant which Didion Milling, Inc. (DMI) proposes to build next to Cambria. It is my contention that ethanol plants, as currently regulated by both State and Federal law, emit pollutants in quantities which will result in adverse effects on people living in the vicinity of such plants.

There exists a large and growing body of scientific evidence demonstrating that current permitted levels of air emissions fail to protect the public health and general welfare. Courts have ruled¹ that the U. S. Environmental Protection Agency (EPA) failed to update air emission standards to reflect the current scientific consensus regarding pollutant limits necessary to protect human health as required by the Clean Air Act.

State Action

On the eve of Earth Day 2006, Wisconsin Attorney General Peg Lautenschlager announced that she would introduce legislation to remove restrictions that prohibit the adoption of state emissions standards which are stricter than federal standards saying, “Over the past several years, the federal government has been adopting steadily weaker pollution control standards that endanger our health, our children, and our environment. Wisconsin's laws that tie our standards to the steadily weaker federal standards are obsolete and harmful to Wisconsin's citizens. It would be a fitting honor to the late Senator Gaylord Nelson on this Earth Day to restore Wisconsin’s role as a leader on environmental standards.”²

The Attorney General's office has joined with other states in lawsuits against the EPA regarding existing rules which fail to protect the health of the citizens of Wisconsin.^{3,4}

National Organizations Comment On Current Regulations And The Scientific Literature

As I stated in my introduction, there is a large and growing body of evidence showing that current environmental regulations set limits which fail to protect the health of the public. Many national organizations have weighed in on this issue. For example in 2002, the American Lung Association (ALA) compiled a report⁵ citing over 2000 studies which support this conclusion. The 2006 State of the Air⁶ report issued by the ALA states,

“In December 2005, EPA Administrator Stephen Johnson finally proposed new standards for particle pollution (particulate matter or PM). Lamentably, the proposal fails to protect the public health as required by the Clean Air Act. The standards were last

1 <http://www.sierraclub.org/environmentallaw/lawsuits/viewCase.asp?id=319>

2 http://www.doj.state.wi.us/news/2006/nr042006_ENV.asp

3 http://www.doj.state.wi.us/news/2006/nr032306_ENV.asp

4 http://www.doj.state.wi.us/news/2006/nr042706_ENV.asp

5 <http://www.lungusa.org/site/apps/s/link.asp?c=dvLUK9O0E&b=44654>

6 http://lungaction.org/reports/sota06_protecting.html

reviewed and revised in 1997. The Clean Air Act requires a review of the standards to be completed every five years. Thus, EPA should have proposed new standards in 2002. The Agency finally proposed new standards because the American Lung Association and other environmental groups sued the Agency to force it to review the 1997 standards. In September 2006, EPA will announce the final standards.”

“Late as they are, EPA’s proposals for the particle standards failed to do what the Clean Air Act requires: Protect public health with an adequate margin of safety.”

In comments⁷ submitted on proposed new EPA particulate matter (PM) emission standards (Docket No. EPA-HQ-OAR-2001-0017), the American Medical Association (AMA) has this to say,

“Many U.S. and Canadian studies are available that provide evidence of associations between PM_{2.5} and serious health effects in areas with air quality at and above the level of the 1997 annual standard (15 µg/m³). Newer short-term mortality studies provide evidence of statistically significant associations with PM_{2.5} in areas with long-term average concentrations of 13 to 14 µg/m³, concentrations that are below the 1997 standard. Short-term studies of emergency room visits and cardiovascular mortality suggest measurable health effects at PM_{2.5} concentrations of ~12 µg/m³. A recent study (Dominici F, Peng D, Bell ML et al. JAMA; 2006; 295:1127-1134) showed that PM_{2.5} concentrations are associated with short-term increases in hospital admissions for cardiovascular and respiratory diseases among Medicare enrollees, arguing for setting a PM_{2.5} standard that is adequate to protect the health of these individuals.”

The AMA urges the EPA Administrator to,

“...adopt these more stringent standards in order to provide adequate protection for the public from the adverse health effects of both long- and short-term exposures to fine particulate matter in the ambient air.”

In a final note, the AMA adds this comment which has a direct bearing on rural areas such as Columbia County,

“While not commenting specifically on the proposed new coarse PM standard, the AMA is concerned that the EPA is proposing no monitors in communities with a population less than 100,000 and in rural areas.”

Recent Scientific Literature

The peer reviewed journal Environmental Health Perspectives (EHP), published by the National Institute of Environmental Health Sciences, which I consider to be the best single source of current environmental health related literature, is available free and in full text form on-line to interested researchers.

<http://www.ehponline.org/>

⁷ <http://www.cleanairstandards.org/wp-content/uploads/2006/05/ama-comments-epa-fine-part.pdf>

This June in the journal, researchers reported the results of a study involving the most vulnerable of all members of the public, infants. Their conclusion,

“At levels of ozone exposure near or below current U.S. EPA standards, infants are at increased risk of respiratory symptoms, particularly infants whose mothers have physician-diagnosed asthma.”

Ozone can be formed from both the by-products of vehicle exhaust and from components present in the emissions from ethanol plants.

In this same issue, another study⁸ reveals that low levels of air pollution are linked to premature births,

“...relatively low concentrations of air pollution under current air quality standards during pregnancy may contribute to an increased risk of PTD (pre-term delivery).”

The elderly are another group at greater risk than the general population. A recent study in New Zealand⁹ finds that hospitalization rates for cardiovascular problems are increased with emission levels below current health standards in that country which are similar to standards here.

“The results suggest that air pollution arising from common emission sources for CO, NO₂, and PM (e.g., motor vehicle exhausts) has significant associations with adult cardiovascular hospital admissions, especially in the elderly, at air pollution concentrations below normal health guidelines.”

The above mentioned pollutants are currently permitted to be emitted from ethanol plants at rates measured in tons per year.

People with asthma are put at greater risk when we allow levels of air pollution to be increased. I quote the entire abstract from this next article¹⁰ as it illustrates how many different factors combine to trigger negative health effects in people,

“Asthma is a multifactorial airway disease that arises from a relatively common genetic background interphased with exposures to allergens and airborne irritants. The rapid rise in asthma over the past three decades in Western societies has been attributed to numerous diverse factors, including increased awareness of the disease, altered lifestyle and activity patterns, and ill-defined changes in environmental exposures. It is well

8 Leem, JH, BM Kaplan, YK Shim, HR Pohl, CA Gotway, SM Bullard, JF Rogers, MM Smith, and CA Tylenda. “Exposures to Air Pollutants During Pregnancy and Preterm Delivery.” *ibid*.

9 Barnett, Adrian G., Gail M. Williams, Joel Schwartz, Trudy L. Best, Anne H. Neller, Anna L. Petroschevsky, and Rod W. Simpson. “The Effects of Air Pollution on Hospitalizations for Cardiovascular Disease in Elderly People in Australia and New Zealand Cities.” *Environmental Health Perspectives* 114, no. 7 (2006): 1018-1023.

10 Gilmour, MI, MS Jaakkola, SJ London, AE Nel, and CA Rogers. “How Exposure to Environmental Tobacco Smoke, Outdoor Air Pollutants, and Increased Pollen Burdens Influences the Incidence of Asthma.” *Environ Health Perspect* 114, no. 4 (2006): 627-633.

accepted that persons with asthma are more sensitive than persons without asthma to air pollutants such as cigarette smoke, traffic emissions, and photochemical smog components. It has also been demonstrated that exposure to a mix of allergens and irritants can at times promote the development phase (induction) of the disease. Experimental evidence suggests that complex organic molecules from diesel exhaust may act as allergic adjuvants through the production of oxidative stress in airway cells. It also seems that climate change is increasing the abundance of aeroallergens such as pollen, which may result in greater incidence or severity of allergic diseases. In this review we illustrate how environmental tobacco smoke, outdoor air pollution, and climate change may act as environmental risk factors for the development of asthma and provide mechanistic explanations for how some of these effects can occur.”

Photochemical smog components are among the emitted pollutants allowed in abundant quantities from ethanol plants under current regulations. We are of course inundated with pollen. And Cambria, with already burdensome diesel truck and train traffic due to the two canning companies and DMI's current operation, has all of the diesel exhaust we can handle. In fact, we should be working toward ways to decrease the levels of traffic we have instead of contemplating adding more. We can only hope that Cambria's children are not exposed to tobacco smoke in their homes as well.

And finally, healthy adults can't escape the effects of air pollutants such as those generated by ethanol plants and the traffic related to their operation. A study¹¹ which appeared in EHP last year demonstrates that exposure in otherwise healthy adults to a mixture of PM_{2.5} and ozone raises blood pressure which can lead to cardiovascular disease.

“...exposure to environmentally relevant concentrations of PM_{2.5} and O₃ rapidly increases DBP (diastolic blood pressure). The magnitude of BP (blood pressure) change is associated with the PM_{2.5} carbon content. Exposure to vehicular traffic may provide a common link between our observations and previous studies in which traffic exposure was identified as a potential risk factor for cardiovascular disease.”

Didion Milling, Inc.

As they did here in Cambria in 2003 during their first attempt to site an ethanol plant, Didion seeks to reassure us that permits they've yet to receive from various State agencies will answer any and all concerns that anyone may have regarding safeguards to our health, safety, and welfare. It would be a grave mistake for us to buy into this line of thinking.

Permits issued by State agencies attempting to regulate industry such as Didion proposes are almost exclusively dependent upon willing and voluntary compliance with all relevant regulations and law. As Didion has amply proved with their established track record regarding compliance, even when they are finally caught in a violation it can take

11 Urch, B, F Silverman, P Corey, JR Brook, KZ Lukic, S Rajagopalan, and RD Brook. “Acute Blood Pressure Responses in Healthy Adults During Controlled Air Pollution Exposures.” *Environ Health Perspect* 113, no. 8 (2005): 1052-1055.

many years before they are made to account for their failure to comply with their permits. In the meantime, they continue to pollute the air and foul the water, ignore local building ordinances, and generally disregard all attempts at meaningful regulation.

A timeline of violations

- As early as 1993 in Cambria, United Maize, Inc. (which since merged with Didion Milling in 1995,) is issued a Notice of Violation¹² for polluting, disturbing the shoreland area along, and dumping fill into a branch of Duck Creek. This creek is one of the sources that feeds Tarrant Lake here in the village.

- In 2000, Didion reaches a Consent Agreement¹³ in Case No. 99-C-261-C in the United States District Court for the Western District of Wisconsin to settle alleged violations of the Clean Air Act. Didion failed to comply with certain specified conditions of its 1996 air permit issued by the Wisconsin Department of Natural Resources, including the failure to use air pollution control equipment at its grain transfer facility which was located on St. Feriole Island in Prairie du Chein, Wisconsin. Didion settled for \$107,500.

- The very next year, in 2001, Didion again receives a Notice of Violation¹⁴ for stripping all of the vegetation along a section of Duck Creek. This violation also results in a stern warning from the U.S. Army Corp of Engineers¹⁵.

- In 2002, Didion fails to clean up and report a hazardous substance spill¹⁶ as required by State statute.

- Again in 2002, Didion is issued another Notice of Violation¹⁷ for failing to apply for permits before constructing more silos than they were permitted to build. The number of silos is important here because total storage capacity forms part of the basis for classifying a milling facility for regulatory purposes. This is still an open violation.

- Finally, in April 2006, Didion is issued their latest Notice of Violation¹⁸. This latest violation occurs when it is discovered, during an unannounced inspection in March of this year, that Didion has failed to install certain filters within 90 days of issuance as required under the conditions of their air permit issued in May 2005. The permit was issued to settle the open 2002 violation. This latest violation is also open.

12 <http://homepage.mac.com/oscura/ctd/docs/061193didvio.pdf>

13 <http://www.epa.gov/reg5oorc/enfactions/enfactions2000/state-wi.htm>

14 <http://homepage.mac.com/oscura/ctd/docs/051101didvio.pdf>

15 <http://homepage.mac.com/oscura/ctd/docs/acedidion.pdf>

16 <http://homepage.mac.com/oscura/ctd/docs/021802didvio.pdf>

17 <http://homepage.mac.com/oscura/ctd/docs/072302didvio.pdf>

18 http://homepage.mac.com/oscura/ctd/docs/040506notice_of_violation.pdf

Conclusions

Current regulations fail to safeguard the public health in that they do not meet requirements set forth within the Clean Air Act using “evidence-based” scientifically determined limits “that protect the public health and welfare” with “an adequate margin of safety” The current state of the scientific consensus regarding safe limits for air emissions exceeds the regulatory standards currently in effect.

Didion Milling has proved time and time again that they will not take proactive measures to ensure that they remain in compliance with regulations governing their operations here in Cambria. Even if Columbia County were to issue strong conditions in an attempt to regulate Didion's activities near Cambria, I believe the record is clear that violations are likely to continue. These violations threaten the health of those of us who live nearest the Didion facilities. Does Columbia County want this responsibility? Does the County have the resources necessary to oversee this proposed operation?

I urge the committee to, in order to protect the public health, safety, and welfare of its citizens, deny outright the Didion Milling application for a Conditional Use Permit.

John Mueller

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