

# **Concerns and Issues about the Didion Ethanol Plant**

## **Prepared by Cambrians for Thoughtful Development**

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For more information about ethanol and Didion check the Cambrians for Thoughtful Development website:  
[Cambrians for Thoughtful Development Homepage](http://homepage.mac.com/oscura/ctd/ctd.html)

or <http://homepage.mac.com/oscura/ctd/ctd.html>

### **Air Emissions**

We should be skeptical of claims that the current air emission permits required to construct an ethanol plant will protect the health of people living in the vicinity of these plants. A growing body of scientific evidence demonstrates that serious health effects do occur at far lower levels of exposure than are currently permitted under the Federal Clean Air Act and State of Wisconsin law. Many extremely hazardous pollutants, such as formaldehyde, acetic acid, and acrolein, which are known to be emitted from ethanol plants, are barely regulated at all.

Didion's proposed plant is similar to the existing UWGP plant in Friesland. In the permitting materials for the UWGP plant the Wisconsin DNR estimates, "that the facility could have up to the following level of air emissions: 76.2 tons per year (TPY) of particulate matter, 0.7 TPY sulfur dioxide, 97.5 TPY nitrogen oxides, 90.9 TPY volatile organic compounds (VOCs), and 97.3 TPY carbon monoxide. In addition, emissions of any known federal hazardous air pollutants (HAPs) are estimated to be less than 10 TPY for any one HAP, and less than 25 TPY for all HAPs combined." That's close to 388 tons per year of pollutants. These emissions are in addition to the emissions from other industries in Cambria, including a staggering amount of diesel truck traffic generated by the canning companies.

Recent studies show that current methods of risk assessment, which are ultimately based on wide-area ambient monitoring standards, don't adequately take into account local conditions. This leads to adverse health effects in communities located near permitted facilities. For example, claims that 90% of the time airborne emissions from the proposed Didion plant will be carried away from Cambria are based on historical information from the Dane County airport. The claims are suspect as they do not take into account the highly localized nature of airflow directions closer to the ground where people actually live.

## **Odor**

Ethanol developers talk about the smell from ethanol plants as being mild and 'like a bakery' or other such pleasant things. In an environmental assessment prepared to evaluate the impacts of the Friesland UWGP plant, the Wisconsin DNR concluded that, "Some of the pollutants identified above may result in odors from the facility. In addition, it is believed that this facility is likely to have some amount of odors associated with it most of the time." Certainly, new technology has helped reduce the odor from ethanol plants, however if the technology is not working properly or not maintained odor can be a real problem for the neighbors of ethanol plants. This has been the case at the Lena, Illinois plant, the Gopher State ethanol plant in St. Paul, MN, and a plant in Preston, MN, among others. The Village of Cambria and Town of Courtland residents must be protected from the disruptive odors coming from the plant.

## **The Topography of Cambria**

When driving into Cambria from the north or south you can not avoid noticing the steep hills that you must drive down to get into the village. Cambria sits at the bottom of a valley. Using topographical maps of the area (attached) it is possible to see that the proposed Didion ethanol site lies at approximately 880 feet above sea level. Traveling about one and one half mile as the crow flies due north of the site, across Tarrant Lake, to where there is a bend in State Hwy 146, elevations climb to 1020 feet above sea level. This is a difference of 140 feet. Didion's application materials indicate the highest stack height from the thermal oxidizer of 175 feet. Any settling of emissions over that one and one half mile distance could cause vapors and emissions to become trapped in the valley of Cambria.

The citizens of Cambria are concerned about the potential for settling of steam and vapor emissions into this valley. This is especially a concern in the winter months. Just looking at the UWGP plant in the Town of Randolph in winter showed the residents of the area just how much steam, vapor, and emissions are coming out of the plants stack and cooling towers. Any kind of temperature inversions will trap the emissions and odor from the plant in Cambria causing increased harm to the health and quality of life in the valley and in the Village. Attached are two photos taken in the winter months at Minnesota ethanol plants. The stacks put the emissions up but then they "fall" back down to the ground as they travel away from the plant.

## **External Lighting**

The lighting plan submitted with the Didion Conditional Use Permit Application does not give adequate information to assure local residents that external lighting won't impact the night time sky. Local residents know from experience that without proper control ethanol plants cause light pollution. The United Wisconsin

Grain Producer facility located just 2 miles away has considerable night–time lighting that is out of character with the surrounding rural area and disrupts the night–time sky. Any planned ethanol expansion by Didion Milling must follow a strict lighting plan that reduces light pollution and light trespass to a minimum.

## **Traffic**

At the November 26, 2002 informational meeting about Didion's then planned ethanol plant, the company stated that their 40 million gallon ethanol plant would add 112 additional trucks a day (56 going in and 56 coming out). If you multiply this by 365 days a year you get 40,880 trucks traveling through the residential areas of Cambria. This is in addition to the trucks that Didion, Seneca, and Del Monte currently have going through the Village.

Studies show that truck and rail traffic reduce property values. Vibrations caused by truck traffic have been shown to damage houses. Diesel emissions from trucks and trains contain irritants and cancer causing substances. The American Lung Association in its State of the Air 2006 report states that "Fine particle pollution is especially harmful to people with lung diseases such as asthma and chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema, because particles can aggravate these diseases. Exposure to fine particle air pollution can trigger asthma flare–ups and cause wheezing, coughing, and respiratory irritation in individuals with sensitive airways. People with heart disease such as coronary artery disease and congestive heart failure and people with diabetes are at risk of serious cardiac effects."

Additional resources on the effects of diesel emissions on human health can be found at the website [Cambrians for Thoughtful Development Diesel Emissions Page](http://www.cambriansforthoughtfuldevelopment.com/diesel-emissions)

or <http://homepage.mac.com/oscura/ctd/diesel.html>

In addition to truck traffic the ethanol plant will also mean additional train traffic. Didion has not clearly explained the number of additional trains that will be needed to service the plant. Currently many trains in Cambria need to cross across State Highway 146, often blocking the main southern route out of town for five, ten, or even twenty minutes.

## **Hazardous Pollutants, Safety and Emergency Response**

The chemicals and substances associated with the production of ethanol pose serious safety risks to the

community (these will be transported through the area and stored in bulk at the plant). The following are of special concern:

Sulfuric acid

Caustic Soda solution (sodium hydroxide, lye)

Anhydrous Ammonia

Ethanol

Gasoline

In the case of an accidental explosion, fire, or spill all of these substances require special equipment, special procedures, and specially-trained personnel to control the

situation. Cambria does not have the necessary equipment or trained personnel to deal with this sort of emergency. The residents of Cambria, Courtland and surrounding towns would have to wait for the arrival of Hazardous Materials crews to arrive from Portage and Madison. Estimates range from 45 minutes to three hours before the needed personnel and equipment would be on the scene.

Another concern is the fact that there are two ethanol plants in such a close proximity. What if both the UWGP and the Didion ethanol plant both needed an emergency response at the same time?

## **Groundwater**

On August 26, 2006 the *Wisconsin State Journal* published the article, "Houses go up, aquifer goes down." The article documents the continual draw down of the deep aquifer in Dane County due to increased water use, in part because of the boom in residential development. At the July regular County Board Meeting Didion brought up a hydrogeologist from GZA who said that there was no problem with our aquifer and as an example she said that the Madison area draws much more water from the same aquifer and there is no problem. Clearly there is a problem with water use in the our region.

A recent State of Minnesota document guiding the siting of ethanol plants calculates that it takes 4.0 to 4.8 gallons of water per gallon of ethanol produced. Taking the average of this range, Didion's 40 million gallon a year ethanol plant would need 176 million gallons of water. This is in addition to the United Wisconsin Grain Producer's 176 million gallons. UWGP has stated that it plans to double its production, meaning a draw of 352 million gallons a year. The 528 million gallons of water needed by these two ethanol plants would be in addition to the two large scale canning factories operating in Cambria, which have continually increased water use over the years. Please look at the overall maximum allowed capacity of water use when considering this

issue.

Didion was denied a high capacity well permit in 2003 by the DNR because it would have drawn the Cambria municipal well down more than 10 feet, which is the statutory limit governing high capacity wells. Didion claims that they only really want to use 300 gallons per minute (gpm). But they have applied for two (2) 500 gpm wells. Although they may in fact only need 300 gpm at present, the vast majority of ethanol plants double their production within the first years of production.

The DNR can only look at the impact to municipal wells. The current Wisconsin law does not protect private wells from draw down. If local private wells are impacted by Didion's operations, without safeguards from the County, private citizens will have to go to the trouble and expense to take civil court action against Didion. The draw down of wells, both municipal and private, also has the potential to release naturally occurring arsenic into the water system. According to the DNR the Village of Randolph and several wells in the Town of Courtland have recently had elevated arsenic levels. Cambria and Courtland are located in an area of the state with naturally occurring arsenic levels.

The condition that all private wells in a 1 mile radius should be protected should be added to the Conditional Use Permit. To ensure that it can be shown if it was the Didion ethanol plant that was responsible for any draw down, third-party independent testing of all wells in a 1 mile radius need to be done, at Didion's expense, before the ethanol plant goes into production.

## Property Values

Particulate matter from industrial production and truck traffic as well as the noise and vibration from both industrial production and train and truck traffic has a negative impact on housing values. Information can be found at: [Cambrians for Thoughtful Development Property Values Page](#)

or <http://homepage.mac.com/oscura/ctd/value.html>

The following articles document these effects:

*Does Air Quality Matter? Evidence from the Housing Market* by Kenneth Y. Chay & Michael Greenstone NBER Working Papers 6826, National Bureau of Economic Research, Inc. The estimates imply that a one-unit reduction in suspended particulates results in a 0.7–1.5 percent increase in home values. This can be found at: [Does Air Quality Matter? Evidence from the Housing Market](#)

or <http://ideas.repec.org/p/nbr/nberwo/6826.html>

*Traffic & Neighborhood Quality of Life* Community & Environmental Defense Services, Owings Mills, Maryland Traffic noise can have a significant effect on property value. A home located adjacent to a major highway may sell for 8% to 10% less when compared to one located along a quiet neighborhood street.<sup>4</sup> Heavy truck traffic lowers property value at a rate 150 times greater than cars. This article is at : [Cambrians for Thoughtful Development Home Values Page](#)

or <http://homepage.mac.com/oscura/ctd/docs/traffic.pdf>

## Economic Development and Taxes

Cambria is drowning in agri-business. Statements have been made that the County must allow the ethanol plant because Cambria is dying and more agri-business will bring it back to life. Cambria and surrounding towns have 1 ethanol plant (UWGP), 2 large-scale canning factories (Seneca and Del Monte), 1 large scale mill (Didion), 1 grain co-op (Landmark Co-op), and 1 large-scale vegetable processing business (Alsum Produce). These businesses have brought Cambria and surrounds to the state of "dying" we see today. There is no reason to believe that one more agri-business will suddenly have a positive impact, especially one that is not structured to directly share or return income and profits to the community.

Ethanol developers, including Didion often use economic multipliers to talk about the addition of jobs and dollars that an ethanol plant will generate in the local economy indirectly. Minnesota economist Ed Lotterman calls economic multipliers, "...the last refuge of a dishonest economist." A recent study by economist Dave Swanson at Iowa State University questions the exuberance of the ethanol backers, stating "the gap between sensible analysis and outright nonsense is huge." Swenson provides a thoughtful analysis of the community economic development claims of corn-based ethanol. The full paper can be viewed at: [InputOutrageous: The Economic Impacts of Modern Biofuels Production](http://www.econ.iastate.edu/research/webpapers/paper_12644.pdf)

or [http://www.econ.iastate.edu/research/webpapers/paper\\_12644.pdf](http://www.econ.iastate.edu/research/webpapers/paper_12644.pdf)

Didion's claims about the impact of its ethanol plant on the tax rolls also appear to be exuberant. In 2005 Didion paid \$103,740 in property taxes, this includes taxes that go to the Village, the school, the County, and MATC. This is approximately 11% of the total taxes paid from all Cambria residences, industries, and businesses. Residential property accounts for over 60% of Cambria's assessed value.

On May 31, 2006 Didion filed an appeal to the state to reduce their full value from \$4,457,100 down to \$1,587,176 which would decrease their listed assessed (taxable) value to \$1,208,800. If this appeal is awarded they would end up paying a little over \$31,000 in taxes a year. The village, the County, the school district, and MATC would have to come up with the money to pay Didion back this \$72,440 reduction.

Didion claims that it will be paying \$276,000 in taxes on its new ethanol plant, based on nearly \$18 million dollars in assessed value. In 2005 the United Wisconsin Grain Producers (UWGP) ethanol plant in the Town of Randolph had an assessed value of just under \$10 million. The Badger State ethanol plant in Monroe has an assessed value of around \$5.5 million. It seems highly unlikely that Didion would have assessed value on their ethanol plant of two or three times that of other ethanol plants, especially since one could assume that some of the infrastructure is already existent in their milling facility in the Village of Cambria facility.

### **Ethanol Production in the Village of Cambria**

In April of 2003 60% of the voters of Cambria voted NO on the ballot question of "Should Didion Milling be allowed to build an ethanol plant in or near the Village of Cambria?" With this clear signal from the public the Village denied the necessary zoning permits to Didion and added an ordinance banning the production of ethanol within the Village. Dow Didion came before the County Board at the regular meeting in July 2006 and pointed out clearly that ethanol plants need grain storage and offices, among other things, and that these were located in Cambria at their existing mill. With Didion's current plan, how can it be claimed that ethanol is not being produced in the Village of Cambria?

The citizens of Cambria and Courtland have concerns because of the issues documented above. Because of

this and the track record Didion has for being out of compliance with permits and rules all conditions put on the Didion ethanol conditional use permit should be backed up with performance bonds. This will ensure the protection of the general health and welfare of the residents of Cambria and Courtland.

**In addition the County must be prepared to protect the Village and Town against the following scenarios:**

**What happens if the Didion ethanol plant goes out of business?** Conditions must be put in the permit to cover the decommissioning of the plant that will not come at the expense of Courtland and Cambria.

**What happens if the Didion ethanol plant is bought out by another entity?** Ethanol plants in Iowa that were primarily locally owned are being bought out by international capital investors. Australian Ethanol Limited (AAE) recently acquired Diversified Energy Company, LLC (Denco) of Minnesota. All conditions must stay with the plant regardless of owner.

**What happens if there is a change in raw materials (i.e. from corn to switch grass) or a change in the fuel source (i.e. natural gas to coal).**

Examining research and analysis as well as popular media, there are hints that ethanol production in this country may shift away from corn and also away from natural gas as a fuel source. The County must protect the local residents from the potential impacts of these shifts. A shift to different raw materials or fuel stocks brings with it additional emissions and waste issues and the potential for increased truck and train traffic levels.

**What happens when Didion moves to expand its ethanol production?**

Ethanol plants often start off producing 40 million gallons a year but soon double their production or more. Doubled production means increased water use, emissions, truck and train traffic. The County should put stipulations into the conditional use permit that deal with the potential for expanding production. Because of the small acreage of the site Didion should be required to go through a County approval process if they wish to increase their ethanol production above 40 million gallons a year.

**How will the conditions put on the Didion ethanol plant be monitored and enforced? Didion has shown in their past actions with regards to DNR permits that they need to be closely monitored to ensure compliance. What mechanism does the County propose to monitor and enforce the conditional use permit?**