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Comments on the Draft Renewable Operating Permit (ROP) and Source-Wide Permit-to-Install (PTI) proposed to be issued to L'Anse Warden Electric Company, LLC, SRN B4260, by the Michigan Department of Air Quality (DEQ)

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September 9, 2015

Dear Mr. Lancaster:

Thank you for the opportunity to comment on the draft renewable operating permit for the L'Anse Warden facility (LWEC). These comments are submitted jointly by Friends of the Land of Keweenaw (FOLK), a non-profit organization which works to protect and preserve the ecological integrity of the Lake Superior watershed, and the Partnership for Policy Integrity (PFPI), a non-profit organization that uses science, legal action, and strategic communications to promote sound energy policy nationally.

The L'Anse Warden facility has a record of significant impacts on the community, even while claiming to operate within the confines of its permit. We have significant concerns about the adequacy and the enforceability of the permit's conditions. The following comments are provided, with some exceptions, generally in the order that items appear in the draft ROP/PTI and not organized based on importance or criticality. Thus, each of the comments made below should be reviewed and addressed.

Based on these comments and the many significant deficiencies identified in the proposed draft ROP, it is imperative that the MDEQ: (i) hold a timely and well-publicized Public Hearing in order to provide the appropriate responses and clarifications; and (ii) amend the draft ROP in order to address these comments and recirculate the new draft ROP (along with each and every one of the referenced Plans, Test Protocols, etc.) for a round of public and EPA input and comment.

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Comment 1: Lack of identification of "process equipment" and opacity proceedures

General Condition 11 at page 5 of the draft ROP states that:

> *Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:" [FN omitted] (R 336.1301(1))*
> *a. A 6-minute average of 20 % opacity, except for one 6-minute average per hour of not more than 27 percent opacity.*
> *b. A limit specified by an applicable federal new source performance standard.*

1(a). What are the specific "process or process equipment" being referenced in this Condition, as far as the Warden plant is concerned, other than the main boiler EUBOILER#1?

1(b). For each of the applicable "process or process equipment" identified in 1a, how is compliance with either Condition 11a (or 11b, as applicable) determined?

Comment 2: Inadequate description of opacity determinations for fuel handling

On page 13 of 36, under I.1, the opacity limit for "any road, outside storage pile and material handling activity associated with EUFUEL" is 5% (6-minute average) and the method of compliance is shown as Method 9d. Please provide in the public record the opacity measurement protocol that is used to determine compliance with this condition – including a layout of all "road, outside storage pile and material handling activity" affected by this permit condition, including lengths of all roads as well as areas of all storage piles. The protocol should show the locations of the certified observers who conduct these Method 9d tests. The protocol should discuss the frequency of these tests.

Finally, the protocol should also discuss how human observers, trained in Method 9d, are able to consistently measure opacity levels at around 5% (or lower).

Comment 3: Soot-blowing and other plant operations significantly impact quality of life

Condition 12 at page 5 of the permit states,

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:

a. *Injurious effects to human health or safety, animal life, plant life of significant economic value, or property. R 336.1901(a))*
b. *Unreasonable interference with the comfortable enjoyment of life and property. (R 336.1901(b))*

The facility has periods of soot-blowing three times a day (a video of soot-blowing on September 8, 2015 is posted at http://www.pfpi.net/wp-content/uploads/2015/09/LWECSootblowing.mp4). The clouds of black and brown smoke, acrid odor, and taste, as well as greasy soot deposits on nearby cars and boats have been mentioned in other comment letters on this facility and in letters to the editor. Additionally, the plant engages in some kind of activity which results in loud explosions and large releases of soot. Comments by citizens describing these and other troubling incidences are included as an appendix to this letter. We incorporate these comments by reference, and request that MDEQ address all the issues raised therein.

Incidences of soot-blowing, smell, taste, and deposits all could be interpreted as injurious to human health and unreasonably interfering with the comfortable enjoyment of life and property. We note that there are no limits on soot-blowing in the permit. The permit should be re-written to significantly restrict soot-blowing and associated activities and to require capture of emissions, in order to reduce if not eliminate the harm that this facility is doing to the community.

Comment 4: List of allowable fuels excludes wastes actually burned

For emission unit EUFUEL (page 11 of 36), the description provided states that:

> *"[T]he solid fuels handled at the facility include tire derived fuel (TDF), railroad ties, wood chips, and wood fines and bark. (Permit to Install #168-07B)."*

The date of last modification is listed as 5/30/2008. Public reporting in the press indicates that the plant did at one time, and may still, burn scraps of mineral fiber ceiling tiles from the CertainTeed plant nearby.[1] We note that no reference is made to CertainTeed-based waste fuels anywhere in the permit application. While the application acknowledges that the CertainTeed plant receives thermal energy from Warden (see application pdf page 27), there is absolutely no discussion whatsoever as to the fuel obtained from CertainTeed. Nor did we see any prior PTI that allowed the use of CertainTeed materials to be combusted in the boiler.

If this material is being burned at the facility, how is it classified in the ROP? Does the MDEQ consider this material to be "wood chips," or "wood fines and bark"? If so, why? If not, and this is an allowed fuel, this material should be added to the fuel type in both EUFUEL as well as EUBOILER#1. If this is not an allowed fuel, its use should be prohibited in the permit with enforceable conditions.

Additionally, the 2014-2015 Village of L'Anse information manual[2] states that the facility burns "paper mill wood residues" and "paper mill waste," fuels that are not mentioned in the permit.

We also note that the Fuel Procurement and Monitoring Plan states at page 2-5 that that fuels include wood chips, and that "wood chips will be supplied to the construction aggregator from several sources and may include material from construction and demolition activities." A post-

[1] http://www.prnewswire.com/news-releases/certainteed-ceilings-lanse-plant-forges-holistic-sustainability-effortspartners-with-warden-electric-78157037.html

[2] http://bit.ly/1EHd2Kb

2010 presentation from Traxys[3] states that the facility's fuel includes "construction debris waste."
Are these fuels allowed? Why are they not included in the permit? What are the quality control measures taken to ensure that burning these fuels does not emit dangerous levels of hazardous air pollutants? Due to these omissions, and others, it is apparent that the permit application is incomplete – and therefore the draft ROP has been issued prematurely.

Comment 5: Criteria for unacceptable fuels not defined

Permit Condition III.4 on page 16 of 36 of the draft ROP discusses that "unacceptable" fuels should not be burned in EUBOILER#1. Yet, it does not define what criteria should be used to classify a fuel as acceptable or unacceptable. As such this permit condition is unenforceable.

Comment 6: Wastes burned should be characterized

The characterization of the waste from the CertainTeed plant, and any other material that is burned in EUBOILER#1, should be provided in the record. This should include its composition, including any volatile organics that might be present in the material, as well as its heating value. We note that while the composition and even limits on other types of fuel burned are indicated in the permit (for example, under Material Limits at page 16 of 36 of the permit) and the permit application (see, for example, the Fuel Procurement and Monitoring Plan provided in the permit application), there is no discussion of the mineral fiber ceiling tile waste obtained from CertainTeed, or of the other materials that appear to be used as fuel.

Construction waste can contain pressure treated wood (with arsenic, chromium, and copper); lead-painted wood; glued wood, which releases formaldehyde and other organic hazardous air pollutants when burned; and mercury-contaminated wastes. Neither LWEC's fuel plan nor the permit prohibits burning chemically-treated, stained, glued, or painted wood.

Burning construction debris has the potential to emit significant amounts of heavy metals and other HAPs. EPA is aware of this risk, which is why it defines only "processed" construction waste as a non-hazardous solid material. The final "waste" rule from EPA states,

"In general, contaminated C&D wood that has been processed to remove contaminants, such as lead-painted wood, treated wood containing contaminants, such as arsenic and chromium, metals and other non-wood materials, prior to burning, likely meets the processing and legitimacy criteria for contaminants, and thus can be combusted as a non-waste fuel."[4]

The rule further states that EPA interprets the "de minimis" amounts of contaminated material that are allowed to remain in processed wood as meaning "*insignificant or negligible amounts of contamination such as small wood sliver containing lead paint*." [5] From this it is clear that there can be a large difference between processed and unprocessed construction waste. The waste burned at LWEC, and its contamination levels, should thus be characterized in the record.

[3] https://www.michigan.gov/documents/energy/8_-_Traxys_Richardson_417688_7.pdf
[4] FR 78 No 26 p.9138
[5] Ibid. p. 9139

Based on the discussion above, as far as commenters are concerned, the plant appears to be procuring and burning fuels that are not listed or allowed in its current ROP (nor in the renewal application or the draft permit) – fuels with significant potential for causing emissions of hazardous air pollutants. The facility thus appears to be in violation of numerous permit conditions dealing with acceptable and identified fuels allowed under the permit.

Comment 7: TDF fuel quality testing provisions are inadequate

With regard to tire-derived fuel, the fuel management plan states that procedures are supposed to ensure that materials supplied meet specified fuel requirements. It states that TDF may contain "some" wire. It states that loads from new suppliers will be "visually spot checked," and that quality control of TDF is by "visual inspection." It further states that "*periodic samples will be taken for lab analysis to test for sulfur, chorine, and lead content as required by the Permit*."

However, these provisions are so vague they are practically meaningless. The permit states (at provision 3 of section V on page 18) that "*the permittee shall perform periodic sampling and analysis of each solid fuel as described in the DEQ approved FPMP*." However, this provision does not specify how often such sampling should occur, or even that it should be carried out using laboratory analyses. As such, this provision is unenforceable.

Comment 8: Facility should be regulated as a CISWI unit, not a biomass boiler

If the LWEC facility were regulated as a Commercial and Industrial Solid Waste Incineration (CISWI) unit, it would be subject to additional restrictions on emissions of conventional pollutants and hazardous air pollutants, including dioxin. CISWI limits for energy recovery units (ERU's) burning biomass[6] include emissions limits on pollutants that are most certainly emitted by the LWEC unit but which are not regulated (or in some cases even monitored) in a meaningful way:

CISWI limit for ERU's burning biomass	
PM, filterable (mg/dscm)	**5.1**
Carbon monoxide (ppm at 7% O_2)	**240**
Hydrogen chloride (ppmv)	**0.2**
Mercury (mg/dscm)	**0.0022**
Lead (mg/dscm)	**0.014**
Cadmium (mg/dscm)	**0.0014**
Dioxin, furans, total (ng/dscm)	**0.52**
Dioxin, furans, Toxic Equivalents (TEQ) (ng/dscm)	**0.076**
Nitrogen oxides (ppmv)	**290**
Sulfur Dioxide (ppmv)	**7.3**

[6] From EPA's CISWI rule, 40 CFR Parts 60 and 241 – Federal Register Vol 78 No. 26, February 7, 2013, p. 9192

There appears to be some confusion whether LWEC is a CISWI unit. A February 9 2012 letter to EPA and MDEQ from LWEC states the facility *should* be regulated as a CISWI unit. However, the permit renewable application form the company states they are "NOT" subject to CISWI regulations. The rationale for not treating the facility as a CISWI unit is provided in the staff report accompanying the draft permit, which states at page 5,

EUBOILER#1 at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJJ. Even though EUBOILER#1 may burn materials considered solid waste under 40 CFR Part 241, ***it meets the statutory exemption described in Section 129(g)(1) of the Clean Air Act and is not subject to 40 CFR Part 60, Subpart DDDD.***

Here the facility appears to be taking advantage of an exemption provided in 42 USC 7429(g)(1)(B) (section 129(g)(1)(B) of the Clean Air Act): that "incinerators" do not include

"qualifying small power production facilities, as defined in section 796(17)(C) of title 16, or qualifying cogeneration facilities, as defined in section 796(18)(B) of title 16, ***which burn homogeneous waste*** *(such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes."*[7]

We believe this exemption has been misapplied and that the facility does *not* qualify as a small power producer, and thus *is* an incinerator that should instead be regulated as a CISWI unit. This is for two main reasons. First, as discussed above, the facility appears to be burning a variety of wastes, including unprocessed construction waste, making it unlikely to meet the requirement that it burn "homogenous" waste.

Second, the facility does not appear to meet another of the requirements for qualifying small power producers. For biomass-fueled small power producers, federal rules require that the facility get at least 75% of its power from non-fossil fuel sources[8]:

(b) Fuel use. (1)(i) The primary energy source of the facility must be biomass, waste, renewable resources, geothermal resources, or any combination thereof, ***and 75 percent or more*** *of the total energy input must be from these sources.*

(2) Use of oil, natural gas and coal by a facility, under section 3(17)(B) of the Federal Power Act, ***is limited to the minimum amounts of fuel required for ignition, startup, testing, flame stabilization, and control uses, and the minimum amounts of fuel***

[7] https://www.law.cornell.edu/uscode/text/42/7429

[8] CFR Title 18 Chapter 1 Subchapter K Part 292 §292.204 Criteria for qualifying small power production facilities. http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=5517216c22de672592192e81dcc97726&rgn=div5&view=text&node=18:1.0.1.11.58&idno=18#se18.1.292_1204

required to alleviate or prevent unanticipated equipment outages, and emergencies, directly affecting the public health, safety, or welfare, which would result from electric power outages. ***Such fuel use may not, in the aggregate, exceed 25 percent of the total energy input*** *of the facility during the 12-month period beginning with the date the facility first produces electric energy and any calendar year subsequent to the year in which the facility first produces electric energy.*

L'Anse Warden submitted a self-certification to FERC as a small power producer. Regarding the above requirement, the FERC instructions[9] for the self-certification form state

7. Describe how ***fossil fuel use will not exceed 25 percent of the total annual energy input limit*** *[18 C.F.R §§ 292.2020) and 292.204(b)]. Also, describe how the use of fossil fuel will be limited to the following purposes to conform to Federal Power Act section 3(17)(B): ignition, start-up, testing, flame stabilization, control use, and minimal amounts of fuel required to alleviate or prevent unanticipated equipment outages and emergencies directly affecting the public.*

The company responded:

The facility is strictly a closed loop biomass facility except for natural gas that may be used during start up of the facility.

This is not the case on two counts. First, the facility is not a "closed loop" biomass facility – it is an open loop facility. Second, as of recent permits, the facility is allowed to burn up to 50% natural gas by heat input.

There is another discrepancy between the permit and the FERC filing. Form 556 asks for "*common primary energy source used as energy input*," to which LWEC responded "waste wood biomass," with no mention of tire-derived fuel or natural gas.

Given that the facility probably emitting far more hazardous air pollutants than allowed by its permit, the failure of MDEQ to regulate this facility as an industrial waste-burner is regrettable. MDEQ should re-write the permit to regulate LWEC as a CISWI unit.

Comment 9: Malfunction Abatement Plan not included in permit

On page 13 of 36, under III.1, please provide a complete copy (including Appendix A) of the most current, approved, Malfunction Abatement Plan (noted in the condition) in the public record. If the version provided in the Permit Application is the most recent version, please confirm.

Comment 10: Permit does not specify limits on heat input

On page 15 of 36, the description of EUBOILER#1 states that its maximum heat input is 324 million Btu/hr. This should be an enforceable condition in the permit since it is a critical input

[9] form 556; L'Anse Warden's form available at http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12123015

parameter for all of the emissions calculations associated with EUBOILER#1.[10] Please change accordingly or provide a justification in the record as to why this single most important size attribute, affecting all emissions from this unit, should not be an enforceable condition.

Please discuss how the plant maintains heat input at all times at less than this maximum 324 million Btu/hr. Please discuss how and where recordkeeping provisions confirm this.

Comment 11: Inconsistencies regarding plant's electrical output

The description for EUBOILER#1 states that the rating of the electrical generator is 22 MW. However, in its renewal application at pdf page 100, which is part of FERC Form 556, the applicant states that the gross output is 20 MW and the net output is 17.7 MW. The net output is reconfirmed in the application at pdf page 102. Why, in view of this, does the permit state the rating to be the higher 22 MW?

We note that an increase from 20 to 22 MW is 10% and not a trivial increase in the plant's capacity. The MDEQ should provide a detailed explanation as to why there is such an obvious discrepancy is a fundamental factual characteristic of the plant. If, in fact, there was a modification at the plant to allow the rated capacity of the unit to increase from 20 MW to 22 MW, details of this should be provided in the public record.

As illustrated by the confusion above, it is the commenters' position that the electrical rating of the plant should be an enforceable permit condition. Please discuss how the plant electrical generation is maintained at all times at less than 20 MW. Please discuss how and where recordkeeping provisions in the ROP confirm this.

Comment 12: Allowable steam supply not specified

The description for EUBOILER#1 states that the unit can produce steam and electricity. Also, publicly available documents, including the Permit Application, indicate that the plant can or does provide steam to the CertainTeed plant. Please indicate the maximum quantity of steam that is available for sale (and therefore not used for electricity production). Please provide the steam conditions (i.e., pressure).

Similar to the comments above, it is the commenters' position that the steam supply capacity and its characteristics from EUBOILER#1 should be enforceable permit conditions.

Comment 13: Emission limits are inadequate

This comment deals with the various emission limits provided on page 15 of 36 of the draft ROP/PTI.

[10] For example, in its renewal permit application, pdf p. 16, the applicant calculates greenhouse gas emissions (CO2, CH4, N2O) using this maximum hourly heat input value of 324 million Btu/hr.

13(a): Opacity

Opacity is not listed as a pollutant with a specific limit for EUBOILER#1. While we agree that GC11 (and the 20%/27% opacity limit, 6 minute average) applies to this emission point, for clarity, this condition should be included in the emission table.

Separately, we note the disconnect with regards to opacity limits applicable to various sources at this plant. While sources covered under EUFUEL are subject to a 5% opacity limit (6-minute average), the single largest source of emissions at the plant, EUBOILER#1 is subject to a 20% opacity limit (with a 27% allowed exception). This makes no sense.

13(b): Need for CEMS

We note that except for CO, which is monitored using CEMS, none of the other major pollutants are monitored using CEMS. This is particularly egregious for SO2 and NOx. These pollutants are routinely monitored using CEMS (and have been for at least that last 20+ years) at most power plants including gas fired power plants, with emission that are considerably smaller than what is allowed under the draft ROP for EUBOILER#1.

13(c): SO2 emissions

The draft ROP allows SO2 emissions of 290 pounds per hour (lb/hr). Using even the 8200 hours per year of expected operation, the annual allowable SO2 emission rate is 1189 tons per year. Using the full 8760 hours per year, the maximum annual SO2 emissions are 1270 tons per year. Setting aside the fact that, without CEMS, there is no ability to verify that actual emissions are complying with the specified 290 lb/hr emission rate, using even the maximum heat input value of 324 million Btu/hr and the allowable emission value of 290 lb/hr, the SO2 emission rate is calculated to be 0.895 lb/MMBtu. Of course, under actual conditions, when the heat input is less than 324 million Btu/hr, this rate could be even higher and still meet the permit limit of 290 lb/hr. Thus, the lowest SO2 allowable rate, while maintaining compliance with the SO2 limit is 0.895 lb/MMBtu. This is an extraordinarily high rate – by any standards. We note that this boiler has no SO2 emissions controls such as scrubbers or sorbent injection.

In fact, the allowable SO2 rate of 0.895 lb/MMBtu exceeds the SO2 rates achieved in practice (and as confirmed by SO2 CEMS) for the vast majority of even the coal-fired boilers in the country operating today. Considering just the power plant units in Michigan alone, of the around 100 units that have reported data to the EPA's acid rain database (www.epa.gov/ampd) for year 2014 using CEMS, only the Trenton Channel units, the St. Clair units 6 and 7 and the BC Cobb units 4 and 5 had higher SO2 emission rates. We note that some of the Trenton Channel units are likely to be closed in coming years; and SO2 emissions for the other units may decline as they are subject to other rules such as EPA's MATS rule.

Thus, the Warden boiler, supposedly burning "green" biomass as the owners proclaim, is one of the worst SO2 emission sources in the state – with no verifiability of its emissions since it does not have SO2 CEMS.

At a minimum, the MDEQ should require the installation of SO2 CEMS at EUBOILER#1.

13(d): NOx emissions

The allowable NOx rate is 145 lb/hr. Using 8200 hours of operation, this translates to annual allowable emissions of around 595 tons/year. Using 8760 hours per year, the allowable annual NOx emissions are 635 tons/year. The hourly NOx rate, using the maximum heat input value of 324 million Btu/hr is 0.4475 lb/MMBtu. We note that there are no NOx controls for this unit whatsoever. We also note that actual rates could be much higher while still complying with the allowable hourly rate of 145 lb/hr, even if this could be verified – which is impossible without CEMS.

As with SO2, we compared the NOx rate of 0.4475 lb/MMBtu, with at least the other power plants in Michigan alone. Exactly 100 power plant units have provided CEMS monitored data to the EPA website for 2014. None have NOx rates as high as 0.4475 lb/MMBtu. Thus, the "green" Warden boiler is the worst NOx emitter of all power plants in Michigan normalized on a heat input basis. And, as noted, the ROP requires no continuous verification of the NOx rate – i.e., CEMS, which is being used at each of the 100 power plant units in Michigan.

There is simply no excuse for not requiring NOx CEMS for demonstrating compliance with the NOx rate.

13(e): Failure to define startup/shutdown

The CO rate of 0.3 lb/MMBtu and the VOC concentration of 50 ppm at 7% O2 do not apply during "startup and shutdown." However, neither "startup" nor "shutdown" are defined anywhere in the permit – making these conditions meaningless and unenforceable. The permit should provide an enforceable and technically-supported definition for both startup and shutdown.

13(f): Lack of enforceability of area source provisions - HCl

The facility is regulated as an "area" source for Hazardous Air Pollutants. The HCl limit of 2.17 lb/hr is equal to the annual limit of 9.5 tons per year – both listed as permit conditions. We note that the 9.5 tons per year is slightly smaller than the 10 tons per year limit for major sources of this hazardous air pollutant. Thus, it is critical that an accurate rate of HCl emissions be available and maintained, particularly since the facility has no acid gas emissions controls installed. Yet, just as with all of the other pollutants except CO, HCl emissions will only be measured via a stack test (likely under specialized conditions) for just a few hours (the typical duration of stack tests). This is insufficient to ensure compliance with either the hourly or the annual limits for HCl.

HCl CEMS are now widely available. The permit should require the installation of CEMS for HCl to demonstrate compliance with the specified HCl limits.

13(g): Lack of enforceability of area source provisions - other HAPs

It is not clear how the applicant will ensure compliance with the 20 tons/year limit for aggregate HAPs. It appears that this involves calculations, using emission factors. Condition 4 at page 18 states,

"The permittee shall keep records and calculations of monthly and annual HAP emissions utilizing the emission factors from the compliance demonstration or the most recent emissions testing. Additionally, the permittee shall keep records and calculations of monthly and annual emissions of all non-tested HAP utilizing AQD approved emission factors."

However, since neither the HAPs nor the respective emission factors are noted in the permit (or the application), it is unclear how this monthly compliance obligation will be (or is being) met. As such, the condition is unenforceable.

In fact, it seems likey that LWEC's HAPs emissions are much greater than 25 tons. Using EPA's AP-42 emissions factors for HAPs, which assume only relatively clean wood, and not tires or treated railroad ties, emissions for a 324 MMBtu/hr boiler would be almost 54 tons per year, as shown in the following table:

Hazardous Air Pollutant	AP-42 factor (lb/MMBtu)	Total lb AP-42	Hazardous Air Pollutant	AP-42 factor (lb/MMBtu)	Total lb AP-42
ACETALDEHYDE	8.300E-04	2,355.7	ETHYL BENZENE	3.100E-05	88.0
ACETONE	1.900E-04	539.3	FORMALDEHYDE	4.400E-03	12,488.3
ACROLEIN	4.000E-03	11,353.0	HYDROCHLORIC ACID	1.900E-02	53,926.6
ANTIMONY	7.900E-06	22.4	LEAD	4.800E-05	136.2
ARSENIC	2.200E-05	62.4	MANGANESE	1.600E-03	4,541.2
BARIUM	1.700E-04	482.5	MERCURY	3.500E-06	9.9
BENZALDEHYDE	8.500E-07	2.4	METHYL ETHYL KETONE	5.400E-06	15.3
BENZENE	4.200E-03	11,920.6	NAPHTHALENE	9.700E-05	275.3
BERYLLIUM	1.100E-06	3.1	NICKEL	3.300E-05	93.7
BIS(2-ETHYLHEXYL)PHTHALATE	4.700E-08	0.1	PENTACHLOROPHENOL	5.100E-08	0.1
CADMIUM	4.100E-06	11.6	PHENOL	5.100E-05	144.8
CARBON TETRACHLORIDE	4.500E-05	127.7	SELENIUM	2.800E-06	7.9
CHLOROBENZENE	3.300E-05	93.7	STYRENE	1.900E-03	5,392.7
CHLOROFORM	2.800E-05	79.5	TOLUENE	9.200E-04	2,611.2
CHROMIUM	2.100E-05	59.6	VINYL CHLORIDE	1.800E-05	51.1
COBALT	6.500E-06	18.4			
COPPER	4.900E-05	139.1			
DICHLOROMETHANE	2.900E-04	823.1	**Total tons AP-42**		**53.9**

We are doubtful that the plant is able to keep its emissions of HAPs below the minor source threshold, but in any case, EPA requirements that permits be enforceable require that a facility do more than simply claim its emissions are minimal. The EPA has made it clear that facilities claiming synthetic minor status must have federally enforceable provisions in their permits to ensure that rolling 12-month emissions truly are less than 250 tons. For instance, EPA states in a letter to the Hawaii air permitting agency (CAB) regarding the Hu Honua biomass power plant[11] that

> *"EPA's longstanding guidance to permitting authorities and the regulated community has be that to effectively limit a source's PTE, permit conditions must be practically enforceable. For example, EPA's June 13, 1989 memorandum, 'Guidance on Limiting Potential to Emit in New Source Permitting' and EPA's January 25, 1995 memorandum,*

[11] http://www.pfpi.net/wp-content/uploads/2015/09/EPA-Hu-Honua-Comments-6-30-11.pdf

'Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act,' elaborated upon the Agency's criteria for practically enforceable PTE limits by stating that such limits should specify (1) a technically-accurate limitation and the portion of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, and annual limits such as rolling annual limits); and (3) the method to determine compliance including appropriate monitoring, recordkeeping, and reporting. Our guidance specifies that the averaging time for all limits must be practicably enforceable to readily allow for determination of compliance. Short term limits, generally daily but not to exceed one month, are preferred. Operational and/or production limits are also required."

The Hu letter explains the kind of restrictions that EPA requires for a permit to be enforceable. The letter states that if a facility is to be permitted as a non-major HAP source, the state permitting agency

> *"must add conditions to the final permit to establish annual PTE caps for any single HAP and the sum of all HAPs to ensure emissions do not exceed the major source thresholds of 10 tpy for a single HAP and 25 tpy for the sum of all HAPs, on a 12-month rolling basis,"*

and since the facility was very close to the HAP major source threshold, the agency

> *"must require an initial source test for all HAPs to determine how representative the estmimated wood combustion emission factors are"* for the facility. In addition, EPA recommended *"annual source testing for any HAP compound that exceeds 1 tpy or any compound with an initial source test result that is within 5 – 10% of the emission factor used in the statement of basis in the proposed permit."* EPA stated also that the agency *"should consider requiring testing for all HAP compounds at least once per permit term"* and that all source testing *"must use EPA-approved test methods for the specific HAP compounds."*

The letter also states

> *"to enforce compliance with the 12-month rolling HAP PTE caps,"* the agency *"must add one or more conditions to the permit that require the source to calculate its HAP emissions (including emissions during start-up and shutdown periods) on a cumulative basis. These calculations must be based on operational data and the best available emission factors (i.e., the most recent source test data)."* EPA recommends that *"the permit require the source to perform this calculation on a monthly basis,"* and that the state agency *"must also add associated record-keeping and reporting requirements to the permit."*

<u>13(h): PM limits</u>

The permit specifies limits for PM and PM10. However, the permit does not state if the numerical limits are for total PM and total PM10 – i.e., including both the filterable and the

condensable fractions. In the absence of any further details, including lack of test methods that will be used to measure PM or PM10, commenters assume that the numerical limits are for total PM and total PM10.

The final permit should make this clear.

As far as compliance demonstration, we note that PM CEMS are widely available for filterable PM. They should be required. That way, the total PM can be calculated using continuous data for filterable PM along with appropriate test-based emission factors for condensable PM.

13(i): Lack of PM2.5 limit

Commenters note that there are no specified limits for PM2.5, a critical criteria pollutant with its own National Ambient Air Quality Standard (NAAQS). This is a glaring omission and should be rectified, with an appropriate limit for PM2.5, along with suitable compliance demonstrations.

13(j): Inadequacy of testing provisions

The draft ROP only requires stack testing once every five years per Condition V.1 on page 17 of 36. This is grossly inadequate, even with CEMS installed for filterable PM/PM10/PM2,5, SO2, NOx, and HCl as discussed above. Testing would still be required for condensable PM/PM10/PM2.5, VOCs, and all of the non-HCl HAPs. Given the diverse range of fuels allowed to be burned in EUBOILER#1, and the likely variable nature of these fuels, it is ludicrous that stack testing is required (for a few hours in duration, at most) once every 5 years or 43,800 hours.

What is DEQ's technical basis for assuming that test data obtained for a few hours every 43,800 hours will accurately represent emissions of all of these pollutants from a source that can burn at least 8 or more different fuels? Commenters request that DEQ specify its rationale in writing as part of the public record.

The failure to test renders other conditions in the permit meaningless. For instance, Condition 25 on page 7 of the permit states,

"The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office."

However, as the permit does not contain any testing or monitoring requirements for the majority of hazardous/toxic pollutants, it is impossible to detect if they are being emitted during abnormal conditions. Therefore, condition 25 at page 7 is unenforceable.

In summary, and as noted above, commenters believe that compliance demonstration for most of the pollutants specified from EUBOILER#1 is weak to non-existent in the draft permit. And, commenters have shown that at least for SO2 and NOx – where comparable data from other peer power plants is readily available – the allowable limits for EUBOILER#1 make it one of the

worst if not the worst emitters of these pollutants in the entire state of Michigan. Thus, it is imperative that the final ROP focus on significantly strengthening the compliance demonstration mechanisms as follows:

- by requiring continuous compliance via certified CEMS for filterable PM, SO2, NOx, and HCl;
- by requiring that all details of the "test protocol" such as fuels used; test methods and averaging times be included as part of the permit – and subject to public review and comment. The requirement to test for all emissions using each of the allowed (and additional fuels such as materials from CertainTeed) should be an obvious requirement in the test protocol;
- by including enforceable definitions of startup and shutdown; and
- by requiring more frequent stack tests – which should require testing under each of the fuels allowed to be burned by the permit – for those pollutants whose emissions cannot be monitored via CEMS. At a minimum these tests should be annual. They could be more frequent if the annual tests indicate high levels of variability.

Comment 14: Lack of emission limits for ammonia

Commenters note that there are no emission limits for ammonia anywhere in the draft ROP. The DEQ should require that the applicant to demonstrate that no ammonia emissions can occur from any of the operations (including fuel storage) at the plant – using test data or process knowledge. If not, ammonia emission limits should be specified.

Comment 15: Emissions calcuations are incomplete

In Appendix 7, the draft ROP states that "[T]here are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable." We find this confusing. It appears that almost the entire compliance demonstration edifice for this source relies on emission calculations. These statements therefore make no sense. DEQ should clarify.

Comment 16: PSD avoidance appears to be not supported in law

At the present time, Commenters reserve comment on the summary of calculations provided in Appendix 4, Table C dealing with PSD avoidance (for all pollutants except CO) when the earlier Warden unit was converted from coal to the current suit of fuels. Commenters could not provide appropriate comments since this Appendix does not contain the actual details of the results shown in Table C under "Baseline Emissions," "Projected Actual Emissions," and "Excluded Emissions."

However, since a major reason the L'Anse Warden plant is so massively polluting for its size is that it avoided PSD permitting and a Best Available Control Technology (BACT) analysis, it is important to comment on the issue of PSD avoidance. The draft permit states that the modification of the facility to replace coal with other fuels was not subject to PSD, and that the "actual to projected actual applicability test" was used to demonstrate that PSD did not apply. However, we question this conclusion. CFR 40 Part §52.21 sets out the conditions for calculating baseline emissions, against which post-modification emissions are to be compared to determine whether a net increase will occur. At (48)(i) it states,

(i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

We examined EIA data on operation of the facility in the years prior to its conversion. The following table, assembled from EIA "923" data,[12] shows fuel use and net generation in the years prior to and following the plant's conversion. It is apparent from these data that the plant was barely operating, and in some years acting as a sink rather than a source for power in the five years prior to its conversion.

Year	Reported Fuel Type Code	Physical Unit Label	TOTAL FUEL CONSUMPTION QUANTITY	ELECTRIC FUEL CONSUMPTION QUANTITY	TOTAL FUEL CONSUMPTION MMBTUS	ELEC FUEL CONSUMPTION MMBTUS	NET GENERATION (megawatthours)
2001	NG	mcf	150,956	150,956	154,974	154,974	9,444
2002	BIT	tons	0	0	0	0	0
2002	NG	tons	95,986	95,986	96,946	96,946	5,063
2003	NG	mcf	107,455	107,455	108,530	108,530	6,882
2004	NG	mcf	0	0	0	0	-386
2005	NG	mcf	0	0	0	0	-405
2006	NG	mcf	0	0	0	0	-440
2007	DFO	barrels	0	0	0	0	0
2007	NG	mcf	0	0	0	0	0
2008	DFO	barrels	0	0	0	0	0
2008	NG	mcf	480	480	494	494	16
2008	TDF	short tons	220	220	7,040	7,040	259
2008	WDS	short tons	13,156	13,156	159,056	159,056	6,111

Given that the facility was barely operating for the five years prior to its conversion from coal to "biomass," it is not clear why the facility was not required to go through Prevention of Significant Deterioration air permitting. In fact Table C in the draft permit (at page 34) does not try to claim actual emissions as baseline, instead stating that the plant was "capable of accommodating" certain levels of emissions. It is not clear if the phrase "capable of accommodating" used repeatedly in the column "Reason for Exclusion" is meant as a term of art under the PSD regulations or in some other manner. We suspect that the exemption of this facility from PSD permitting was not based in law, and urge the MDEQ to re-visit this issue.

Summary

It is critical that members of the public in L'Anse and nearby areas who are exposed to a wide range of emissions from this high emitting, poorly controlled, poorly monitored, yet ostensibly

[12] Available at http://www.eia.gov/electricity/data/eia923/

"green" plant fully understand what emissions, in what quantities are being emitted and/or are allowed to be emitted under all fuels and conditions – including startup, shutdown, and malfunctions.

It is critical that the public understand why emissions from such a plant are barely monitored with no data-supported assurances whatsoever that actual emissions are in fact, not far greater than even the already-high allowable emissions.

It is also critical that the public record fully describe how this original coal plant escaped PSD regulations, when it was converted to its current suite of so-called "green" fuels – and thereby escaped the requirement to install Best Available Control Technology (BACT), especially for pollutants such as SO2 and NOx – for which this plant is among the highest emitters in all of Michigan.

For all of the reasons above, we reiterate that the DEQ should hold a public hearing in L'Anse promptly in order to clarify and respond to the many issues raised in these comments.

Thank you for the opportunity to comment,

Linda Rulison,
President, Friends of the Land of Keweenaw

Mary S. Booth
Director, Partnership for Policy Integrity

Appendix: Letters from Citizens

Rosemary Grier

September 4, 2015

Dear Mr. Lancaster,

Thank you for your courtesy and time in returning my phone call a few weeks ago. In regards to the phone conversation we had regarding the ROP for the Warden Plant in L'Anse, MI; you said the Warden Plant was in compliance with the current permit. If this is true, then the permit is not at all comprehensive enough to address the health risks and other serious problems.

These are some of my concerns:

1. Air contaminant emissions

I work at the BHK Child Center in L'Anse, next to Warden Plant. During the winter months black particulate matter is found in the snow on a regular basis. By late winter and early spring the black residue in the snow is very noticeable, with lined black strata in the pinkish hued snow. Children with light colored snow pants leave the playground with black streaks of soot-looking stains. Parents have complained about these marks. Mittens or uncovered hands are subject to the same black debris found in the snow. We are required to take children outside on a daily basis unless there is extreme heat or cold. We are also breathing the same air in which the particulate matter is traveling in. We always have some children and staff with respiratory and/or asthma conditions.

The wind pattern regularly blows stack emissions over not only our center, but also public family housing, the Bayside Nursing Home, and the Sacred Heart Elementary School. Black particulate matter is also found in those yards. The Warden plant operates year round burning the same toxic waste materials, therefore emitting the same PM and other discharge waste byproducts into the air throughout the seasons.

- *What is the chemical make up the particulate matter?*
- *The permit does not include a complete listing of tested pollutants in the Emission Unit Conditions under Pollution Control Equipment. For example, dioxins are a known by-product of the materials burned at the Warden Plant, yet they are not listed as a tested pollutant.*
- *If the permit allows this much particulate matter to be released steadily into the air, it is not comprehensive enough.*

2. f. Odor Minimization (Part 111 - #4)

The smoke stack odor is constant, with some days having more stench than others. It is a rancid, sweetish, sulfuric smell. On very warm humid days, it is much worse and therefore more concentrated.

- *What is the chemical composition of these emissions?*
- *What other pollutants are coming from the stack? Only a few pollutants appear to be listed in the permit.*
- *How does the public know what they are breathing?*
- *What about the health and well-being of the preschool children who play daily in the school yard next to the plant?*

Explosive Sounds

Last fall, children, staff and some visiting parents became suddenly terrified when what sounded like gun fire next to the center occurred. Minute's later staff realized the ear splinting sounds were coming from the stack area of the Warden plant. After each blasting sound, dark black material was emitted into the air and carried with the wind, sometimes toward our center. There was a person wearing a hazmat suit walking around a balcony area around the stack.

The center did not get notified about this upsetting situation. Initially, staff thought the penetrating sounds might be an "active shooter" situation. It was very unnerving, with children crying, as they had no preparation (nor did staff) for these unsettling circumstances. The blasting

occurred numerous times during the day and during school hours for nearly 2 weeks. The blasting events happened again in the spring. I understand this process occurs every year.

- *What is the explosive device used for the "blasting" inside the stack?*
- *What is the black material emitted immediately following the blast into the surrounding area, which is in very close proximity to the BHK Preschool Center? Anyone standing on the BHK Center grounds has a clear view of the plant, as the center is located on an elevated slope near the Warden Plant.*
- *How is the black debris tested and what pollutants are you testing?*
- *Why is the blasting occurring in the first place?*
- *Where in the permit does it address the need for blasting and informing the public about when the blasting occurs?*
- *Why does the blasting occur during the school day?*
- *What are the scheduled times during a calendar year this procedure takes place?*

<u>The Chipping Yard</u>

The tires, treated railroad ties and other waste materials are shredded in the open, with debris escaping into the wind, sending this toxic material across the landscape to school yards, homes, businesses, and into Keweenaw Bay. The storage yard with the pentachlorophenol treated wood, tires and other unknown rubble is bare to the elements to be rained and snowed on, releasing an array of toxic chemicals onto the soil. This slew eventually runs off and travels somewhere.

- *Where does this toxic run-off go? Is it captured in a treatment tank? Does it travel to a steam? Does it eventually go into Keweenaw Bay?*
- *What pollutants are in the run-off?*
- *Is there a filtering system to capture airborne contaminates from the shredded tires, railroad ties, etc?*
- *The particulate matter from the chipping/shredding yard is not addressed in the permit.*

<u>Certain Teed Factory</u>

- *What waste products does the Certain Teed factory create?*
- *Where do the waste products go?*
- *What chemicals are in the waste products?*
- *There is no reference to this factory and its waste and/or byproducts in the ROP*.

Public safety, especially concerning children and the community, should be the DEQ's number one priority.

The permit does not meet the requirements in the Emissions Limits section, page 5:

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:

a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.[1] **(R 336.1901(a))**
b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(R 336.1901(b))**

The ROP is not comprehensive enough to protect the public and the environment. One permit for three facilities is not at all adequate.

I am requesting a public meeting in L'Anse in regards to the Warden Plant ROP with the concerns that you have received during the comment period and concerns you may not have heard yet. We need answers.

Thank you,
Rosemary Grier

Fran Whitman

From: "fmwpeq@up.net" <fmwpeq@up.net>
Sent: Tuesday, August 25, 2015 9:10pm
To: lancastere1@michigan.gov
Cc: "Representative Benishek" <MI01DBIMA@mail.house.gov>
Subject: Request for Air Quality hearing on the L"Anse Warden plant

Dear Mr. Lancaster,
On July 16,2015 while attending the L'Anse Waterfront concert held on a beautiful summer evening by Lake Superior, I, and all those attending, were exposed to an acrid odor in the air. There was a south wind blowing and when I looked south dark brown-black smoke was spewing out of the Warden plant smoke stack and the acrid odor, and who knows what else, was blowing over us for the duration of the concert. This was from 7-9pm.

On July 23,2015, again while attending the Waterfront concert, we, the citizens of L'Anse, approximately 100 people were again exposed to the Warden plant acrid particles. Dark brown-black smoke was visible spewing from the smoke stack.

Many local people are concerned about this issue.
Schools,child care facilities, are nearby and exposed daily. People living nearby report a black greasy deposit on surfaces outside their homes.

Two local physicians have written scathing articles regarding the plant in our local paper for the last two weeks.

Due to these factors, I am requesting a local hearing.
Thank you,
Fran Whitman

Harold Ripple

EPA, DEQ, officials obfuscate issues on Warden ties, tires

To the Editor,

The most recent letter in the *L'Anse Sentinel* (Aug. 12, 2015) regarding biomass and the Warden Plant should evoke a thank you by the entire community to Dr. Carmody.

A few weeks ago the information in the paper regarding the ROP (Renewal of Permit) process for the plant pretty well made it clear that any public protest or questioning could, or would be ignored, by the officials conducting that meeting. So much for public input.

There are questions that need to be asked and answers that need to be given.

There is simply too much obfuscation of the issues and potential hazards to continue with an "out of sight, out of mind" attitude.

Creosote is a volatile hydrocarbon and a known carcinogen and for that reason burning of ties in Canada and Germany is illegal. (Perhaps even more countries.)

At one time ground-up rubber tires enjoyed approval as a playground material. More recently it is being recommended that this be removed from areas where children play (EPA). It seems something is given "off" this material that is not safe. Should we burn them?

It seems that standard biomass is not able to be burned in a financially sustainable way. Hence, the enhancement of that fuel with toxic elements via railroad ties and rubber tires.

They, the plant, maintains that what comes out of the stack is clean. By whose standards, and if clean where does that odor and eye watering smell come from? The EPA and DEQ need to tell us of the risks involved.

I had occasion very recently to ask one of our elected state officials if it is true that it is now the standard in our state to allow pretty much unrestricted burning of ties and tires.

His answer was and I quote, "if we don't burn them, what should we do with them?"

In the first place many of these ties come from Canada. Are we a dumping ground for their toxins? What kind of justification is that?

Secondly, he seemed unable, or unwilling, to consider that this might be a bad idea.

The Warden Plant's legality had been questioned since the plant began burning these "additives". So Michigan Legislature passed HB5205 in 2014 to classify essentially all combustible materials, including tires that might go into a landfill as appropriate for biomass plants. The materials now count as renewable.

This is not only discouraging, it shows a remarkable lack of concern about a very real hazard.

A couple of years ago I wrote the EPA and asked if they would grant permits of the type given here, if this plant was in the middle of Chicago or Milwaukee. No answer.

There clearly exists a perversion of what is biomass. Does the EPA/DEQ attitude have anything to do with the multi-million dollar grant given to get this plant up and running?

Every time I drive by their gate I hope the RR ties will be gone. The pile seems to grow.

--Harold Ripple, MD
Skanee

Peter Carmody

Editor's note: Dr. Peter Carmody addressed the Warden Plant's re-permitting process in this letter to the Department of Environmental Quality's Air Quality Division. He has contacted numerous officials with less than satisfactory response. Carmody is concerned about potential health effects with the biomass plant in L'Anse.

Upper Peninsula District Office DEQ, 1504 West Washington Street Marquette, Michigan, 49855

DEQ AQD

I have just become aware of a 30-day comment period for the ROP (Renewable Operating Permit) in the *L'Anse Sentinel* for the Warden Electrical Generating Plant at L'Anse Michigan with the stated purpose being to consolidate all existing air quality requirements for a facility into one permit. "No new admission limits or restrictions can be added through the ROP except those that are needed to ensure that the facility can adequately demonstrate compliance with the existing requirements." If this is true it would appear that the public comment period is just another example of window dressing by a governmental agency with a pre-planned agenda to be able to say that there existed a public comment period. If no new restrictions can be applied, why have a public comment period?

It has been discouraging to witness the conversion of the Warden Plant to burn biomass and the permitting process that allows this to include the burning of creosote and chemically treated railroad ties and tires with apparently these being shipped here from across the country as well as from Canada. Why won't Canada allow the burning of their railroad ties? There are often times that a dark visible discharge is emitted from the smokestack that you can see, taste, and smell, and being located in the center of our town obviously inhaled as well. If this unit was located in some remote location at considerable distance from town there would be a better chance for significant dilutional effect from ambient winds to occur. This then might not be so detrimental to the local citizens, but allowing this discharge to occur right in the middle of our town is of marked concern. Boats parked at the nearby marina have a black greasy residue on the boat hulls where the dew point is reached near the cold water interface so condensation occurs that precipitates the organic compounds on the boats. This might be the reason that only two boats are moored in the marina this summer.

I am told that recently county commissioners, while at a conference at the Island Casino, were told in response to a question to the Director-Michigan Biomass that no combustion residues exist as the extremely high temperatures ensure complete combustion. He must be aware that upon the burning of organic carbon compounds that the end products of complete combustion are CO2 and H2O which are odorless and tasteless with of course the occasional dark stack discharge that you can see, taste, and smell verifying incomplete combustion. End products of inorganic compounds and trace metals and minerals are not fully elucidated and understood, and vary in different environments of combustion. I am hopeful that the Directors position is that of naivety and not of deceitful deception. I have communicated with the Director; my concerns about the statements attributed to him, and have received a communication back from him saying that his statements were "mischaracterized." Who do you believe?

Since the conversion of the Warden Plant, it has been most discouraging to witness the process proceed to the burning of railroad ties and tires apparently with the blessing of the EPA and DEQ. With my realization of what was happening I wrote a letter and drove down to Gaylord, Michigan, to the headquarters of the DEQ to hand deliver and review the contents of my letter of concern to Ms. Janis Denman district supervisor of the Department of Air Quality in hopes of affecting a change. She referred me to a Tom Maki of the DEQ at Gwinn who forwarded the permit issued. She also promised she would have a Lynda Dykema, PhD Toxicologist of the Michigan Department of Health who interfaces with the DEQ, contact me, but of course that never occurred.

I have been told by the DEQ that the monitoring of the plant's operational parameters and stack discharge are by the operators of the Warden Plant itself who decide when and what to monitor, with the analysis performed by their contracted lab that they pay. Hard to accept that monitoring in a random unannounced fashion with sample and data collection performed by the EPA and DEQ does not exist, actually almost unbelievable, just seems a little too cozy. Kinda the ole story of the fox guarding the hen house.

I am basically pro-development and a proponent of a viable manufacturing base as we desperately need jobs to support our little local economy as opposed to government hand-outs financed by China, but not at the expense of potential hazardous discharges right in the middle of our town. Having practiced medicine here for 40 years, I am sensitized having wit-

DEQ letter

Continued on page 8

DEQ Letter

Continued from page 4

nessed several of my patients die from mesothelioma from the asbestos tile board manufactured by Celotex which resulted in their subsequent bankruptcy. Are we now replacing Celotex with a new silent environmental hazard with yet to be defined significant potential future health problems?

Interestingly many local people believe that a payoff must have occurred as the discharges are so patently obvious, but I believe that a simple mistake was made in the initial permit process. As with any mistake, the first step to resolution is to admit the mistake and then change the course of action. Upon talking with some regulatory people they seem to be aware and embarrassed that this process was permitted, but for some reason officially continue to defend an undefendable position. Wouldn't it be better to admit the permitting error and then take steps to correct and alleviate the hazard? MTU has environmental experts; couldn't they investigate and define the type and nature of the discharges and recommend solutions to ameliorate them? I don't believe the Warden operator wants to harm the local people or incur the potential liability, so should appreciate help to eliminate the problem.

Outside of my health concerns, at the time of initial permitting a lot of the following was not known or appreciated. Initially an argument was made that in regards to CO2 emissions that the burning of biomass was net CO2 neutral due to ultimate recapture, but data now reveals that 30% more CO2 is released from combustion of biomass on a BTU per BTU basis than other fossil fuels. It is now known that it takes 20 years to regenerate the lost biomass to establish net neutrality which means that the ability to recapture the same amount of CO2 that is released upon combustion is not made up for 20 years, so is thus additive which some people believe is responsible for climate change.

This all reminds me of the initial ignorant jubilation for the manufacture of alcohol from corn as a fuel oxidizer. It requires 1.2 units of energy to produce 1.0 unit of alcohol energy which upon mixing with gasoline decreases the mileage by 10% with the energy balance being a negative 30% from the system it replaced. It has also wrecked many internal combustion engines.

Yet we continue to perpetuate this false environmental premise with of course the collateral damage being the exorbitant high cost of corn which is spread throughout the whole food chain. With many people world wide starving, it not only is expensive and environmentally detrimental to us in this country, but politically a detriment on the world stage to foolishly convert food corn to alcohol. All for the vote of the corn producing states and the big business of alcohol production. Will this regulatory analogy and ramifications also prove to be true for the Warden Plant? Schizophrenic! Hopefully with increasing knowledge local people will demand more accountability.

Sincerely,

PE, Carmody MD
1030 Main Street
L'Anse, Michigan 49946