



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

May 17, 2011

Ms. Natalene Cummings, Air Resources Program Director
Forest County Potawatomi Community
P.O. Box 340
Crandon, Wisconsin 54520

Dear Ms. Cummings:

Thank you for the comments you submitted on April 11, 2011 regarding the proposed air use permit application for the Menominee Biomass facility.

You expressed concerns related to the emissions of mercury from the proposed facility. You requested to have the origin of the mercury emissions contained in the permit identified, and that the permit include provisions to reduce mercury emissions to the lowest extent possible.

We appreciate your concern for mercury emissions and the threat posed by atmospheric mercury, which can deposit to watersheds and contribute to elevated methylmercury in aquatic life. This is a statewide concern which the Michigan Department of Environmental Quality (MDEQ) is addressing, in part, by the development of the 2008 Mercury Strategy (http://www.michigan.gov/documents/deq/MDEQ_MSWG_FinalReportJan2008.pdf_222256_7.pdf) and the recent promulgation of state rules regulating mercury emissions from coal-fired power plants. It may also be noted that the United States Environmental Protection Agency (USEPA) has recently proposed regulations for mercury emissions from utilities, and we are in the process of reviewing that proposal. Such broad approaches are needed to help address the mercury problem, due to widespread emission sources, long-range transport, deposition, and bioaccumulation into fish. Some forms of mercury in air emissions (divalent mercury, as reactive gaseous mercury or in particulate form) can have some effect on local deposition near emission sources, while elemental mercury has virtually no tendency to deposit locally and undergoes global distribution.

In the particular case of Menominee Biomass Energy, the mercury which is present in the biomass and may be emitted is a relatively low amount for a power plant and would be expected to consist of approximately 50% elemental mercury. The mercury emissions are estimated to be 0.0006 pounds per hour. This hourly emission rate equates to approximately 5.3 pounds per year if the facility operated at maximum load for 8,760 hours per year. This source of this emission rate was derived based on testing that was done at the Grayling Generating Station in April of 1999. It should be noted that the emission factor used was increased by 50%; therefore we believe that the mercury emissions are overestimated for the following reasons:

- The controls used at the Menominee Biomass facility will be more effective than those used at the Grayling Generating Station, therefore the emissions should be substantially less than what has been estimated.
- If the emission testing results from Grayling Generating station were not increased by 50%, the emissions of mercury would be approximately 3.53 pounds per year. Based upon past analyses we have performed with regard to mercury impacts, sources which have larger mercury emissions have minimal impacts at distances which are much closer to the emission source. Devil's Lake, which you reference in your letter, is at a distance much further away (approximately 200 kilometers) from those distances used in our previous enhanced analyses of mercury impacts. Additionally, the annual mercury emissions from the Menominee Biomass facility are substantially less than the emission rates used in past enhanced mercury impact analyses.

- Steam from the Menominee Biomass facility may replace steam produced at Michigan Fiber and therefore may result in a decrease in emissions from not operating that boiler.
- While the mercury emissions from the Menominee Biomass facility are potential emissions (running at maximum capacity for 8,760 hours per year), it has been our experience that boilers do not typically operate 100% of the time due to scheduled outages and maintenance.

Although some fraction of the emitted mercury would be expected to deposit locally, our studies of other mercury emission sources and their impacts on local fisheries leads us to believe that the impact of this source would be insignificantly small. Although we did not model the potential mercury deposition impacts of this facility as part of our review of the permit to install application, an emission rate of 5 lbs/year would generally be expected to have less than a 1% impact on existing fish methylmercury levels in local water bodies. We would conclude that the potential local mercury impact is acceptably low, and we rely upon our broader-scale activities as noted above to work toward significant reductions in overall mercury emissions and deposition impacts to Michigan waters.

The special conditions of the permit require the submittal of a Wood Fuel Procurement and Monitoring Plan (WFPMP) and requires that only virgin or high quality wood fuel be used. As you are aware, biomass and wood fuel have very low concentrations of mercury as compared to traditional fossil fuels. The Wood Fuel Procurement and Monitoring Plan, which will be reviewed and approved by the Air Quality Division, will assure that only high quality wood will be utilized.

In summary, I believe that all of the concerns addressed in your letter have been addressed.

Please contact me if you have any questions.

Sincerely,

Mary Ann Dolehanty, Supervisor
Permit Section
Air Quality Division
517-373-2098

cc: Mayor George W. Krah, City of Menominee
Mr. Marc Kleiman, Menominee County Clerk
Ms. Pamela Blakley, USEPA
Mr. Constantine Blathras, USEPA
Mr. Chris Hare, MDEQ