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# Michigan State University, T.B. Simon Power Plant

## RESPONSE TO COMMENTS DOCUMENT

October 20, 2011

PERMIT No. 25-11

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Rick Snyder, Governor

## Air Quality Division Michigan Department of Environmental Quality

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**Table of Contents**

<b>Section</b>	<b>Page</b>
Public Participation Process .....	2
Summary of Comments Resulting in Changes to the Permit.....	3
Summary of Significant Comments.....	4
Summary of Comments Received in Support.....	8

## I. PUBLIC PARTICIPATION PROCESS

Permit to Install application No. 25-11, from Michigan State University, is for the combustion of biomass fuels in existing coal fired boilers one through four at the T.B. Simon Power Plant located at 65 Service Drive, East Lansing, Michigan. The public participation process involved providing information for public review including a fact sheet, and proposed permit terms and conditions; a public comment period; a public hearing; and the receipt of written and verbal public comments on staff's analysis of the application and the proposed permit.

On September 9, 2011, copies of the Notice of Air Pollution Comment Period and Public Hearing, the Fact Sheet, and the draft terms and conditions were placed on the Department of Environmental Quality (DEQ or Department), Air Quality Division (AQD) Home Page (<http://www.michigan.gov/air>). In addition, a notice announcing the Public Comment Period, and Public Hearing was placed in the *Lansing State Journal*. The notice provided pertinent information regarding the proposed action; the locations of available information; a telephone number to request additional information; the date, time, and location of the Public Hearing; the closing date of the Public Comment Period; and the address where written comments were being received.

The Public Hearing was held on October 12, 2011, at the office of the Michigan Department of Environmental Quality, Hatcher Conference Room, 525 West Allegan Street, Lansing, Michigan. The hearing began at 1:00 p.m. with Ms. Barbara Rosenbaum as the Hearings Officer and Mr. Vinson Hellwig as the decision maker. Only comments on the proposed permit action were received. In addition, staff of the AQD was available outside the conference room to answer any questions. Approximately nine were in attendance at the Public Hearing with four providing oral comments. The Public Hearing concluded at 1:45 P.M. October 12, 2011.

A total of approximately nine written comments were received during the Public Comment Period and the hearing.

The remainder of this document is a listing of the significant comments received during the public comment period and hearing regarding the proposed permit and the Department's response. The first section discusses the comments received that resulted in changes to the final permit terms and conditions and the basis for each change. The next section discusses the Department's response to all other significant comments that did not result in changes to the final permit.

## II. SUMMARY OF COMMENTS RESULTING IN CHANGES TO THE PERMIT

### Comment

The MDEQ has failed to require the construction of taller, thinner stacks and increased pollution controls for Units 1 and 2. Units 1 and 2 are outdated and inefficient. Both Units need to be completely updated with modern pollution controls such as ESPs or shut down to ensure compliance with state and federal law and to protect human health and the environment.

### AQD Response

The stack height and stack diameter indicated in special condition VIII for Units 1 and 2 have been transposed. The stack height for Units 1 and 2 should be 275 feet instead of 132 feet, and the stack diameter should be 132 inches instead of 275 inches. Despite having these values transposed in the table, the dispersion modeling was performed for stack height of 275 feet and a stack diameter of 132 inches.

Units 1 and 2 are equipped with fabric filters for the control of particulate matter, low NOx burners, and selective non-catalytic reduction (SNCR) which is used during the ozone season. State and Federal regulations require that the existing controls would have to be evaluated if the emission increases from the use of biofuels would cause a significant increase in the emissions of criteria pollutants. The use of biofuels is projected to increase the emissions of particulate matter (PM), carbon monoxide (CO), volatile organic compounds (VOC's), and lead. While there are increases in these pollutants, they are not above "significance levels" prescribed by EPA and as a result do not require additional analysis with regard to control technology review or an ambient air analysis. Although there are not regulations which currently require the applicant to replace their existing controls with more efficient controls, MSU will be responsible for complying with any future regulations promulgated by U.S.EPA which may required changes to existing control systems.

Additionally, a couple of typographical errors and one omission were corrected.

### Condition Change

The condition which specifies the stack height and stack diameter have been changed and corrections made to the table to correct the erroneous numbers.

On page 16, Table II Material Limits, item 1., the Testing Monitoring method was changed from VI.5 to VI.6

On page 18. Special Condition VI.6, the following paragraph was added:

"The permittee shall keep the above records on file at the facility, and in a satisfactory manner, and available to the Department upon Request. (R336.1205, R336.1224, R336.1702, R336.1901)"

### III. Summary of Significant Comments

#### Comment

Further study and analysis is required for biofuels before MSU is granted a permit. There were several comments made which stated that MSU should be required to perform additional technical analysis before a permit to burn biofuel is granted. The suggested additional analysis includes:

- Potential impacts on deforestation, climate change, as well as environmental and social impacts throughout the lifecycle of each biofuel combusted.
- Identification of the types and amounts of biofuels combusted at the power plant
- Potential environmental impacts from invasive plant species.
- Environmental quality and sustainability.
- The types and amounts of biofuels to be combusted

#### AQD Response

All of the specific items listed above are concerns which may be appropriate to address from a broad environmental perspective, rather than from an air quality perspective. The AQD's authority to review, approve, modify, and deny permits is based on a very well defined scope of authority however. The AQD can deny a permit based upon the following reasons:

“(a) Installation, modification, or operation of the source will violate this part, rules promulgated under this part, or the clean air act, unless the source is in compliance with a legally enforceable schedule of compliance contained in a permit or order.

(b) Installation, construction, reconstruction, relocation, alteration, or operation of the source presents or may present an imminent and substantial endangerment to human health, safety, or welfare, or the environment...”

AQD's analysis of the permit indicates that the combustion of biomass fuels will operate in compliance with all state and federal air quality rules and regulations. The commentors did not provide any information which would indicate that the combustion of biomass fuels would present an imminent and substantial endangerment to human health, safety, or welfare, or the environment.

With regard to the types and amounts fuels of biomass combusted in the boilers, there are two special conditions which address this issue. The permit allows only certain types of biofuels to be combusted. The types of biofuels which may be burned include, agricultural residues, grasses, processed biofuels, non-chemically treated or coated woods, wood residue, bark, torrefied wood, sawdust, sander dust, wood chips, scraps, slabs, millings, shavings, processed pellets made from wood and other forest residues. MSU is required to submit to AQD for it's approval, a Fuel Procurement Management Plan (FPMP) prior to combusting any biomass fuels. The FPMP will describe the type of biofuel to be combusted and the source and supplier of the biofuel. The applicant is required to keep daily records on the amount of biofuels which are combusted in the boilers.

Comment

The burning of biofuels is not sustainable. MSU should be focusing their efforts on other renewable fuels. The use of biofuels mixed with coal will keep MSU on the path of continuing to burn coal. MSU should be focusing their attention of 100% renewable energy. The use of biofuel emits toxic contaminants and other pollutants and is not renewable

AQD Response

The choice of fuels to be combusted was not a part of this technical evaluation. Under certain circumstances federal regulations allow MDEQ to evaluate other alternative fuels. This permit did not trigger any requirement which would require MSU to evaluate other alternative fuels as an integral part of the permitting process.

The suggestions and comments being made are concerns which should be addressed as an integral part of MSU's energy policy. As previously stated above, the issues of approvability based upon sustainability is not within the scope of authority of the AQD in approving or denying a permit.

Emissions from the use of biofuels will potentially increase VOC, CO, PM and lead emissions, but will not increase them to the levels that EPA considers to be significant. The emissions of toxic air contaminants was evaluated and the proposed emissions were found to be within the screening levels for toxic air contaminants contained in our administrative rules for air pollution control.

Comment

The MDEQ should maintain the right to revoke the permit if evidence indicates that the biofuels are grown, harvested or processed in an unsustainable or environmentally destructive manner.

AQD Response

The criteria the commentor is suggesting for revocation of a permit is outside of the current statutory authority granted MDEQ under Part 55 of Act 451 of 1994 (as amended) to deny or revoke permits. In order to provide MDEQ with the authority to revoke a permit under the above stated conditions the existing act would need to be modified via the rulemaking process. Any citizen has the ability to make changes the Michigan's Air Pollution Control Act by initiating a request for rulemaking.

Comment

MDEQ should require that MSU provide public notice to the community whenever there is an abnormal condition which results in excess emissions within 24 hours of the occurrence.

AQD Response

Michigan Administrative Rule R 336.1912 for air pollution, addresses abnormal conditions, start-up, shutdown, and malfunction of a source, process or process equipment, operating, notification and reporting requirements. This rule prescribes the reporting requirements a source must follow in the event of abnormal operations. The rule does not require a facility owner to provide any type of notification or reporting beyond that notification and reporting sent to the agency. AQD does not have the regulatory authority to require MSU to provide any type of notification or public notice beyond what is contained in Rule 912.

Comment

The permit must be amended to include biofuel harvesting guidelines and to require that biofuels be certified by the Forest Stewardship Council, the Sustainable Forestry Initiative, the Tree Farm.

AQD Response

The requirements listed above go beyond the statutory authority given the MDEQ in approving or denying a permit application. It would seem appropriate to address all of the concerns addressed by the commentor as an integral part of the Michigan State University's Energy Transition Plan.

Comment

The draft permit does not consider the additional effects of burning biofuels which will include N<sub>2</sub>O and other compounds. The permit does not account for the short-term reduction in sequestration caused by increased harvesting and burning of wood or other plant materials with currently sequestered and subsequently released carbon released carbon, nor the N<sub>2</sub>O emissions from burning of biofuels.

AQD Response

Current state and federal air quality regulations do not require air permitting agencies to do the type of analysis on green house gases being suggested by the commentor. If there were additional greenhouse gas emissions which were deemed to be "significant" emissions, federal regulations require that a control technology review be performed. The federal regulations do not address issues such as short term reduction in sequestration, short term carbon footprint, and long term carbon footprint of the biofuels. The federal regulations address control technology reviews for greenhouse gases when the greenhouse gas emissions are significant. For this permit greenhouse gas (N<sub>2</sub>O, CO<sub>2</sub>, CH<sub>4</sub>, and CO<sub>2</sub>e) emissions were estimated and

determined not to be significant. The projected actual emissions of CO<sub>2</sub>e for coal/biofuel are projected to less than the projected actual emissions of CO<sub>2</sub>e for 100% coal firing. Because there is not a significant increase in greenhouse gas emissions, it was not necessary to perform a control technology review for greenhouse gases.

#### Comment

The draft permit must require that MSU demonstrate that biofuels:

- Will be sustainably sourced
- Will not lead to degradation of wildlife habitat, water quality and quantity, air quality, soil productivity, and biodiversity.
- The burning of biofuels should result in a 60% reduction in GHG's and CO<sub>2</sub>, based upon the proportion of biofuels substituted for coal.

#### AQD Response

The proposed permit addresses all federal rules and state regulations. The authority granted to MDEQ to deny a permit can only be exercised if the permit will violate a state regulation or any part of the Clean Air Act or represents an imminent and substantial endangerment to human health, safety, or welfare, or the environment. The commentor has not provided any information which would lead MDEQ to conclude that the proposed permit would violate any portion of the clean air act, or represents an imminent and substantial endangerment to human health, safety, or welfare, or the environment.

The AQD is not aware of any federal or state requirement to reduce greenhouse gases by a minimum of 60% reduction in CO<sub>2</sub> and greenhouse gases and the commentor did not provide the regulatory basis for the statement. Because there is not a significant increase in greenhouse gas emissions, the applicant is not subject to any federal greenhouse gas emission regulations.

#### Comment

Emission testing should be conducted more frequently to demonstrate that the biofuel combustion is achieving the estimated emission reductions. MDEQ should require at least biannual emission testing of all Units for the next five years.

#### AQD Response

State and Federal regulations require mandatory emission testing every five years. The permit for MSU also requires continuous emission monitoring. Units 1 and 2, which are the oldest units, are required to have continuous emission monitors for visible emissions. Units 3 and 4 are required to have continuous emission monitors for visible emissions, nitrogen oxides, sulfur dioxide, and carbon monoxide. In those situations where there is not a requirement for continuous emission monitors, there are requirements to sample process variables (i.e. sulfur content of the coal) or to make sure that emission are being minimized to the greatest extent

possible by the use of malfunction abatement plans. VOC emissions are being minimized through good combustion practices. Because of the use of continuous emission monitors, the adoption of malfunction abatement plans, as well as the sampling and recordkeeping requirements of the permit MDEQ does not believe that more frequent testing is justified.

#### **IV. SUMMARY OF COMMENTS RECEIVED IN SUPPORT**

The following is a list of the benefits cited in the verbal testimony and letters received:

- The use of biofuels allows for timber stand improvements, healthier forests, income for forest land owners, jobs for Michigan residents, Michigan taxes and many other benefits.
- Proper forest management has allowed timberland area to increase 6 percent since 1980.
- The use of biofuel allows MSU to better manage their forest land.
- MSU's use of bio-fuel is a boost for the forest industry, which has suffered with many mill closures in recent years. An increase in the use of bio-fuel is a positive move in all aspects.

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