

# Fugitive Dust Control Plan

## Mid-Michigan Energy, LLC

Mid-Michigan Energy, LLC  
South Saginaw at Waldo Avenue  
Midland, Michigan 48640

February 2008

**EXECUTIVE SUMMARY**

Mid-Michigan Energy, LLC (MME) is proposing construction of a new coal-fired electric generating facility to be located on S. Saginaw Road at Waldo Avenue in Midland, Michigan (the “Facility”). The Facility will be a nominal 750 megawatt supercritical or ultra-supercritical pulverized coal (PC) boiler power generation facility. In addition to the coal fired boiler, the Facility will consist of sources of potential emissions of fugitive dust, including coal, lime, carbon, and ash material handling and storage, and paved roads.

The attached Figure 1 identifies the locations of sources of potential fugitive dust at the Facility.

Section 324.5524 of Part 55 (Air Pollution Control) of the Natural Resources and Environmental Protection Act (Public Act 451 of 1994, as amended) provides requirements for sources of fugitive dust. The provisions are applicable to all “...*electric services, standard industrial classification group 491...which are located in areas listed in table 36 of R 336.1371 of the Michigan administrative code*”. Section 324.5524(2) states that “*a person responsible for any fugitive dust source regulated under this section shall not cause or allow the emission of fugitive dust from any road, lot, or storage pile, including any material handling activity at a storage pile, that has an opacity greater than 5% as determined by reference test method 9d.*” Section 324.5524 further indicates that any other source of fugitive emissions shall not cause an opacity of greater than 20% as determined by test method 9d.

Pursuant to the provisions of Section 324.5524, and as part of Permit to Install (PTI) Application Number 297-07, MME will operate in accordance with the fugitive dust control program outlined in the following pages.

**Facility** Mid-Michigan Energy, LLC  
South Saginaw and Waldo Avenue  
Midland, Michigan 48640

**Owner/Operator** Mid-Michigan Energy, LLC  
South Saginaw and Waldo Avenue  
Midland, Michigan 48640

Best Management Practices are presented in the following paragraphs, delineated by the type of source of potential fugitive dust emissions. Figure 1 illustrates the location of the various potential sources of fugitive dust.

## **1. ROADS**

To facilitate the necessary access to all portions of the Facility, various roadways will be constructed. Roadways are a potential source of fugitive dust emissions due to vehicular traffic and wind.

### **Control Measures:**

- a) All roads and lot areas at the Facility will be paved.
- b) A speed limit of 15 miles per hour will be posted and enforced on all roadways.
- c) A road type sweeper will be used to clean the paved roads and paved areas as needed. The sweeping shall be performed in such a way as to minimize fugitive dust (e.g., wet the area to be swept; if possible, do not sweep when conditions are windy, etc.).
- d) Records will be maintained on site of all sweeping/cleaning of roadways and lots for the most recent 5 years and will be made available to the agency upon request.
- e) Material spilled onto any roadway or lot will be cleaned immediately.

## **2. STORAGE PILES**

The Facility will utilize two active piles to store coal. Each pile will be conical in shape, approximately 180 feet in diameter and 75 feet high and will store a combined three days worth of coal. In addition to active piles, an inactive pile,

shaped to fit the site, will be used for long term (45 day) storage of coal. Fugitive dust emissions may occur from wind erosion, loading, and unloading of the piles.

**Control Measures:**

- a) Wind screens will be erected near the storage piles.
- b) Water or a chemical suppressant will be applied to the piles as necessary to ensure that fugitive dust emissions result in opacity of less than 5%.
- c) Records will be maintained on site of all applications of water and/or chemical suppressants for the most recent 5 years and will be made available to the agency upon request. The records will include the amount applied, and if chemical suppressants are used, the dilution rate of the chemical.
- d) Loading of the piles will be done via conveyors. The conveyors will be equipped with stacking tubes to reduce fugitive dust emissions at the drop locations.
- e) Reclaim (unloading) of the piles will also be accomplished via conveyor. To reduce the potential for fugitive dust during this process, the coal will be reclaimed via an enclosed drop to a conveyor underneath the pile.

**3. COAL HANDLING OTHER THAN STORAGE PILES**

The Facility will receive coal via rail cars at an onsite spur. The coal will be unloaded and transported throughout the site using conveyors.

**Control Measures:**

- a) The rail unloading station will take place in a partially enclosed structure. Emissions of fugitive dust will be controlled by venting the structure to a fabric filter baghouse, designed to emit no more than 0.005 grains per dry standard cubic foot (gr/dscf).
- b) Conveyors that operate above ground will be partially enclosed to reduce fugitive dust emissions.
- c) Conveyors will utilize stacking tubes at drop points to the storage piles.
- d) Enclosed transfer towers will be employed for transfer of coal from one conveyor to another. The enclosed towers will be exhausted through fabric filters designed to achieve emissions not greater than 0.005 gr/dscf.

#### **4. OTHER MATERIAL HANDLING**

In addition to coal, there will be handling and storage of lime, carbon, biomass, and ash which will have the potential to result in fugitive dust emissions.

##### **Control Measures:**

##### Lime

- a) Lime will be delivered to the Facility in trucks and will be pneumatically transferred to, and stored in, an enclosed silo. The silo will be exhausted through a vent filter designed to achieve emissions not greater than 0.01 gr/dscf.
- b) The lime will be gravity fed from the silo to an enclosed mixing station to create a slurry. Due to the moist nature of the materials and process, there will not be any anticipated fugitive emissions from the lime silo transfer or mixing station.

##### Carbon

- c) Carbon will be delivered to the Facility in trucks and will be pneumatically transferred to, and stored in, an enclosed silo. The silo will be exhausted through a vent filter designed to achieve emissions not greater than 0.01 gr/dscf.
- d) From the silo, the carbon will be pneumatically injected into the flue gas. There are no potential fugitive emissions from this process.

##### Biomass

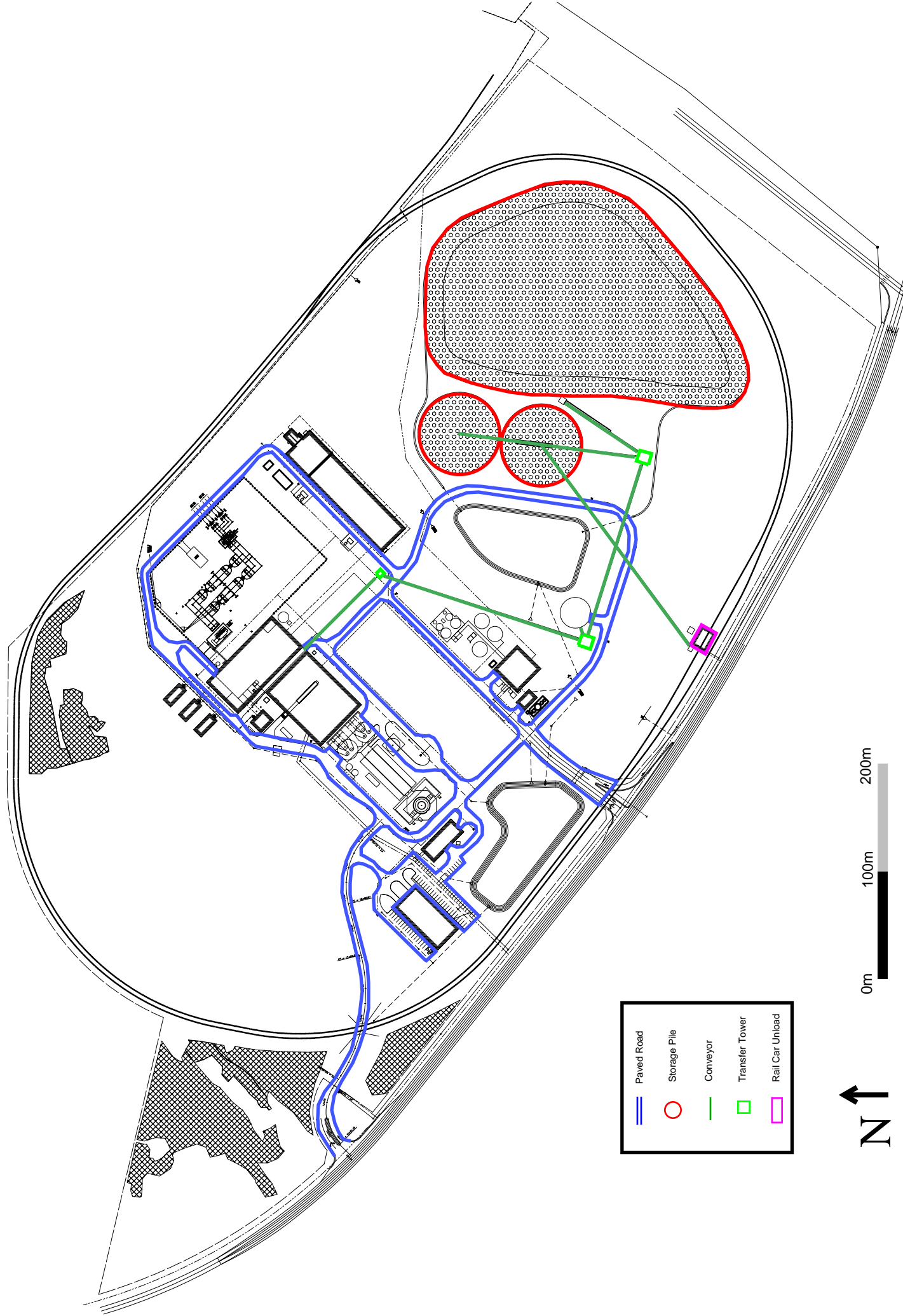
- e) Biomass will be delivered to the Facility via trucks. The biomass will be transferred to an enclosed storage dome which will be exhausted to the air through a fabric filter designed to achieve emissions not greater than 0.005 gr/dscf.
- f) Biomass will be transported from the storage dome to a transfer tower via conveyor. The conveyor will be partially enclosed to reduce emissions of fugitive dust.

##### Ash

- g) Fly ash will be collected from the boiler fabric filter and transported pneumatically to fly ash silos. From the silos it will be pneumatically transferred to trucks for offsite transfer/disposal. The silos will be vented through a fabric filter designed to achieve emissions not greater than 0.01 gr/dscf.

- h) Bottom ash is collected beneath the boiler in a water filled trough. The collection process results in a high moisture content to the ash thereby minimizing the potential for emissions of fugitive dust.
- i) Bottom ash is transported to the bottom ash bunker for temporary storage. The bunker will be partially enclosed to further reduce the potential for emissions of fugitive dust.
- j) Bottom ash will be loaded from the bunker into trucks for transport off site. All trucks transporting bottom ash will be covered to reduce the potential for emissions of fugitive dust.

Figure 1 Mid-Michigan Energy, LLC Site Layout and Fugitive Dust Emission Sources



- Paved Road
- Storage Pile
- Conveyor
- Transfer Tower
- Rail Car Unload

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0m 100m 200m