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September 30, 2016

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SUBJECT: **MILLET HIGHWAY ASH HANDLING AND STORAGE FACILITY**
RESPONSE TO NOTICE OF VIOLATION

Dear Ms. Luplow,

On August 26, 2016, the Lansing Board of Water & Light (BWL) received a Violation Notice for our Millet Highway Ash Handling and Storage Facility (Millet Ash Facility) located adjacent to the BWL Erickson Generating Station, Lansing, MI. The ash handling facility, identified as FGASHHANDLING, is operating under Renewable Operating Permit (ROP) MI-ROP-B4001-2015. The alleged violations were in response to your June 23, 2016 compliance inspection and follow up inspections which occurred on June 27 and June 30, 2016.

Fly Ash Handling and Storage Operations

There are five (5) transfer points that make up the ash handling facility, each equipped with a fabric filter (dust collector) to minimize fugitive dust. Dry fly ash is transported from the Erickson Electrostatic Precipitator hoppers, which have an associated dust collector (EUASHDC5), via a transport line to the Millet Ash Facility. During each shift when fly ash travels through the transport line, Erickson operations personnel drive along the length of the transport line in search of potential leaks. If a leak is discovered, the system is shut down. At the Millet Ash Facility, the fly ash is typically stored in the East and West Storage Silos, controlled by EUASHDC1 Dust Collector (i.e., referred to as main dust collector), prior to transfer into the truck loadout silo (controlled by EUASHDC3 bin vent filter) and later into an enclosed truck. During truck loading, fugitive dust is collected from the truck load spout and sent to the dust collector (EUASHDC2) located on top of the truck loading area. Roughly every 10 seconds, air is pulsed through each of the four (4) dust collectors at the Millet Ash Facility in order to keep the bags functioning and force the fly ash to drop to the bottom of the unit. The pulse requires outdoor air to be pulled into the system; hence the system cannot be completely sealed from ambient air. The Erickson fly ash building system (EUASHDC5) pulses automatically based upon a designated pressure differential. Excess fly ash that cannot fit in the storage silo is stored in the Mass Storage Building with an associated dust collector (EUASHDC4). The bay door used for removal of fly ash from storage has plastic

sheeting behind it to limit dust from leaving the building. If visible emissions (VEs) originating from any part of the system are witnessed by plant personnel, the system would be shut down to repair the problem.

A response to each allegation follows.

General Condition 9 (R 336.1370 (Rule 370))

The Air Quality Division (AQD) has alleged that at the time of the compliance inspection, BWL was not complying with ROP General Condition No. 9 and associated Air Pollution Control Rule R 336.1370 (Rule 370), specifically: "...the collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air."

During the inspection, AQD noted a pile of compact fly ash outside of the Mass Storage Building and a small pile under the ventilation pipe from the East Storage Silo. AQD obtained several samples from the plant yard, the area in front of the Mass Storage Building bay door, and on the gravel driveway entering the plant. Sample results indicate there is fly ash around the facility.

The facility has been in operation since 1976 and over time it is anticipated that fly ash would deposit around the plant yard. Over the years, BWL has made many improvements to minimize offsite migration. The most recent improvements are described herein. Fugitive dust from the facility can occur when dry fly ash is exposed to the environment. Consequently, the most effective measures in mitigating fugitive dust include minimizing exposure to the environment. As previously stated, the facility operates five (5) transfer points that are all controlled with dust collectors. Planned preventative maintenance and daily visual inspections ensure that the control equipment is operating properly. Specifically, the replacement of filter bags, the cleaning and replacement of magnehelics, the routine vacuuming of the baghouse, and other equipment maintenance has kept the facility operating to abate fly ash escaping the facility.

The facility has undergone several other measures recently to contain fly ash in buildings and silos. Prior to the June 23, 2016 inspection, the doors of the Mass Storage Building were resealed and plastic strip sheeting was installed on the inside of the bay door. Fly ash unloading is suspended whenever wind speeds are in excess of 15 miles per hour (mph). Note that fly ash becomes hard when exposed to water, creating solid, rock-like masses; i.e., it absorbs water and remains hardened after it dries. This characteristic is what makes the substance a great additive to concrete. Therefore, it is believed that the highest potential for fugitive dust is when the fly ash is dry.

Since the inspection in June, the Millet Ash Facility has acquired a covered steel bin for the temporary collection of fly ash found near the bay door of the Mass Storage Building. The storage bin was placed near the bay door on July 19, 2016. All fly ash exposed to water, and therefore hardened, around the bay door is collected and

placed in the covered steel storage bin for future landfill disposal. Prior to the introduction of the bin, fly ash was piled on the ground near the bay door and was collected by our waste disposal contractor once a week.

The AQD inspection report addresses an area located under a ventilation pipe on the East Storage Silo where a small amount of fly ash had accumulated. The ventilation pipe is the means for each storage silo to draw in ambient air to keep the baghouse under pressure while fly ash is being transferred through the system. Once the silo is full, this vacuum to the storage silo is turned off so that fly ash can be transferred to the Mass Storage Building. Fly ash is moved from the electrostatic precipitators to the facility about six times a day when the power station is operating; the main dust collector is always on during this time. When this vacuum is shut down, a small amount of fly ash can escape from the silo through the ventilation pipe. The small collection of fly ash at the outlet of the East Storage Silo ventilation was the result of a minor operational error- the silo was marginally too full of ash when the system was changed to move fly ash to the opposite silo. When the switch took place, the loss of vacuum caused some fly ash to escape from the top of the silo, and out the ventilation pipe. After speaking with facility personnel, the pile was collected and placed in the outdoor storage bin on September 16, 2016. In the future, if the escaped fly ash accumulates under the ventilation pipes, staff has been directed that the ash be placed in the recently added covered storage bin near the Mass Storage Building.

Fugitive dust mitigation is an ongoing effort. The facility has obtained a larger dust collector to be installed at the truck load spout dust collector (EUASHDC3). This will be mounted on top of the truck load spout once the infrastructure is installed to secure the larger unit. The dust collector will be installed by the end of the year.

General Condition 12.b (R 336.1901(b) (Rule 901(b))

The AQD has alleged that the BWL is not complying with ROP General Condition No. 12.b and associated Air Pollution Control Rule R 336.1901(b) (Rule 901(b)), specifically: air contaminants cannot cause "unreasonable interference with the comfortable enjoyment of life and property."

Efforts have been made to minimize the potential of fugitive dust leaving the facility boundary, as mentioned above. We have been and will continue to monitor the situation closely. To the extent small quantities of fugitive dust may exceed the facility boundary it would not constitute an unreasonable interference with the comfortable enjoyment of life and property.

FGASHHANDING Special Condition VI.2 and VI.3 (40 CFR 64.7 (a))

The AQD has alleged that the BWL is not complying with ROP Special Condition VI.2 and VI.3, specifically: "differential pressure readings shall be recorded for each particulate control device at least once on a daily basis" and "visible emission observations shall be taken randomly throughout the day... and the results of a

visible emission reading shall be recorded for each particulate control device at least once on a daily basis," respectively.

During each shift, plant personnel check both differential pressure of each dust collector and also determine whether there are visible emissions from each point identified in FGASHHANDLING (EUASHDC1 – EUASHDC5). Although standard procedure is to check these parameters each shift, the plant failed to maintain daily records for EUASHDC5. After further review, it appears that recordings and observations were logged once per week due to the use of an outdated record sheet template (i.e., a template created prior to the December 8, 2015 issuance of the ROP which began the requirement of daily record keeping). This error was corrected on September 1, 2016.

General Condition 10 (R 336.1910 (Rule 910))

The AQD has alleged that the BWL is not complying with ROP General Condition No. 10 and associated Air Pollution Control Rule R 336.1910 (Rule 910) as it applies to the main dust collector (EUASHDC1), specifically "any air cleaning device shall be installed, maintained, and operating in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law." The AQD asserts that particulate was being exhausted from the main dust collector every 10 seconds.

There has been no visible indication of improper operation or malfunction of the baghouse associated with the main dust collector (EUASHDC1) based on daily records. In fact, the baghouse filters were recently replaced and recorded in the work orders sent to the AQD (on November 12, 2015). The AQD Inspection Report states that VE's were observed on June 27, 2016, on the exhaust of the main dust collector (EUASHDC1) during each system pulse. However, plant personnel noted during the daily walk through that the pressure differential was in the appropriate operating range and indicated no visible emissions were occurring. The contractor at the Millet Ash Facility was informed of the VE's witnessed by the AQD, but could not confirm the presence of visible emissions. At the time AQD informed plant personnel of the observation, there were no VE's. This issue appears to have been intermittent and short in duration.

As a result of the AQD inspection report stating that VE's were witnessed on June 27, 2016, operations were reviewed at the facility to determine the potential cause of the alleged VE's. Under currently operations, the fly ash is removed from the main dust collector once a day. One theory is that the ash may be building up underneath the main dust collector bag filters, causing the seal to shift slightly. Operations staff will now empty the main dust collector three (3) times a day.

FGASHHANDLING Special Condition III.1

The AQD has alleged that the BWL is not complying with ROP Special Condition III.1, as it applies to the main dust collector (EUASHDC1), specifically "the permittee shall not operate FGASHHANDLING unless a malfunction

abatement plan (MAP)... has been prepared, implemented and maintained." According to Special Condition III.1, if VEs are observed, the Malfunction Abatement Plan (MAP) must be implemented to stop air contaminants from entering the outer air.

As stated above, the AQD Inspection Report states that VE's were observed on June 27, 2016, from the exhaust of the main dust collector (EUASHDC1) during each system pulse. Based on previous experience, the observation of VE's can indicate an issue with the filter bags and necessitate cleaning or replacing. Since the VE observations were sporadic and short in nature, coupled with the fact that filter bags were recently replaced, plant personnel were not able to verify whether a malfunction had occurred and the system was not shut down for repairs. During a recent plant shutdown, plant personnel inspected the main dust collector and did not find any indication of torn bags. As previously stated, it is believed that ash may be building up quicker than previously experienced and we have since changed the procedure to empty the main dust collector three (3) times a day.

FGASHHANDLING Special Condition VI.1

The AQD has alleged that the BWL is not complying with ROP Special Condition VI.1, specifically: "the permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor differential pressure across the FGASHHANDLING particulate control devices. An operational range from 1 to 5 inches water column... shall be maintained." The AQD Inspection Report states that on June 30, 2016, the differential pressure gauge reading at the main dust collector (EUASHDC1) was 0.8 in H_2O and VEs were observed.

Based upon review of our internal records from June 27, 2016, it appears that the system pressure was 1 inch H_2O with no VEs. As stated above, due to records indicating that differential pressure was within range, an immediate VE reading was not required and the MAP was not implemented. It seems that the alleged VE's were intermittent and/or occurred over a short time period; without plant personnel seeing the differential pressure reading that was out of range, the MAP was not implemented.

Summary of Actions Taken and Proposed

The following is a list of actions taken and future actions to address the issues brought up by AQD during the recent compliance inspection:

- Fly ash accumulating near the bay door of the storage building is now collected in a covered storage bin prior to landfill disposal to reduce the amount of fly ash exposed to outdoor air. The storage bin was placed onsite on July 19, 2016.
- Implement the use of daily log sheets for EUASHDC5; began on September 1, 2016.

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- Fly ash below the ventilation pipe was collected and placed in the outdoor storage bin on September 16, 2016. We will continue to inspect this area and collect any ash as necessary.
- Implement a new procedure and provide additional training for the emptying of main storage silos three (3) times daily.
- A larger dust collector will be installed at the truck load spout dust collector (EUASHDC3) by the end of the year.

We appreciate the opportunity to respond to your concerns. If you have any questions, please contact Emily Wright at 517-702-6003, or Sue Pemberton at 517-702-6363.

Sincerely,

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