

# Madison Metropolitan Sewerage District

1610 Moorland Road • Madison, WI 53713-3398 • Telephone (608) 222-1201 • Fax (608) 222-2703 • madsewer.org

November 10, 2014

Ms. Jessica L. Kramer  
Bureau of Law Enforcement  
Department of Natural Resources  
P.O. Box 7921  
Madison, WI 53707-7921

Dear Ms. Kramer:

I am writing as a follow-up to the enforcement conference that was held on November 5 regarding alleged violations of our Air Construction Permit Non. 10-JLH-224. I want to assure you that the District recognizes the seriousness of the cited violations and is making every effort to return to compliance and remain in compliance in the future. Our Commission is aware of the Notice of Violation/Notice of Claim and shares my concern.

Attached to this letter is information related to actions that we have taken to comply with the permit, what we are currently doing to return to compliance, and what we intend to do to remain in compliance. These activities involve members of many sections within the District. They will be trained to recognize the impacts they have on the success of meeting the requirements of the permit.

As noted during the enforcement conference, things we do to have a positive environmental effect in one area can have a negative effect in other areas. The reduction of the amount of ferric chloride we use is a good example of this. By reducing our ferric chloride dosage, we reduce the amount of chloride in our effluent and make more phosphorus available to be removed from the watershed. However, this reduction also makes more sulfur available for air emissions. We feel that we now have a better understanding of these issues and can operate our facility to provide the best overall positive effect on the environment.

I hope we have impressed upon you the District's commitment to protecting public health and the environment. It is our mission which we are passionate about, and we have a long successful history working with the DNR toward that goal. My staff and I would be glad to meet with you if you have additional questions or concerns. We will send updates to you and Colin Duffy on a bi-weekly basis as we gather more information and work toward installation of the oxidation catalysts.

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I would also appreciate a verbal briefing of your next steps prior to any formal correspondence so I can be proactive in my updates to the District Commission.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Michael Mucha". The signature is stylized with large, overlapping loops and a cursive-like flow.

D. Michael Mucha  
Chief Engineer and Director

## Attachment A

### Actions Taken to Comply with Permit 10-JLH-224

1. Air modeling indicated that the stacks on all three of the engines that burn digester gas and three of the boilers needed to be raised. The modeling also required that rain hats be removed from other boilers stacks. Strand Associates was hired to perform a structural analysis and design, and Kilgust Industries made the modifications. The total cost of this work was \$121,613.
2. Sampling ports were added to an engine stack and to two boiler stacks. This work cost \$7,656
3. An oxidation catalyst was installed on the exhaust of one of the engines. The catalyst supplier required that an air/fuel controller also be installed to extend the life of the catalyst. The catalyst was supplied by Sulzer Turbo Industries. Installation was done by H&H Industries. The total cost of the installation was \$50,204. Prior to obtaining the air permit, the District had installed a gas treatment system to remove moisture, hydrogen sulfide, and siloxanes from the digester gas. Oxidation catalyst manufacturers would not provide a unit unless siloxane concentrations were lowered. The gas treatment system cost \$1.8 million.
4. Stacks tests have been performed on the East Boilers, the Steam Boilers, and the engines at a cost of \$34,200 to date. Testing has also been performed on the inlet and outlet of the oxidation catalyst to monitor the efficiency of removal of formaldehyde. These tests have cost over \$15,000.
5. An on-line instrument was purchased and installed to measure the methane content and hydrogen sulfide concentration of both the raw gas and the treated gas to meet the requirement for hourly analysis. This unit cost \$19,375.
6. Modifications have been made to the District's database to ensure that the necessary data to comply with the permit is being collected.

## **Attachment B**

### Actions currently being taken to return to compliance

1. Samples have recently been collected to measure the formaldehyde concentration on the inlet and outlet of the oxidation catalyst. These results will demonstrate the ability of the catalyst to remove formaldehyde after one year of operation.
2. The vendor of the oxidation catalyst has been contacted with a request to purchase catalysts for the two remaining engines. Air/fuel ratio controllers will also have to be purchased. In addition a means of measuring the carbon monoxide concentration removal across the catalyst will be included. It is expected that this work will cost about \$100,000.
3. SCS Engineers is reviewing the information that was submitted in past air emission inventory reports to check on its validity.
4. SCS Engineers is calculating past emissions to determine if any emissions were high enough for the District to be considered to be a major source of emissions.
5. SCS Engineers is developing a Compliance Calendar to ensure that the District submits all reports and data as required by the permit.
6. The District is reviewing all records to ensure that the required data has been submitted.

## **Attachment C**

### **Actions that will be taken to remain in compliance**

1. Operations and maintenance personnel will be trained on the requirements of the permit as well as the treatment process changes that can contribute to higher emissions.
2. Emission data will be reviewed monthly to ensure that compliance is being achieved.
3. The Compliance Calendar developed by SCS Engineers will be followed.
4. In the event that circumstances would prevent meeting any of the requirements in the permit, the Department will be contacted immediately to discuss the issue.