



October 9, 2019

Ms. Heidi Hollenbach  
Air Quality Division  
**Department of Environment, Great Lakes and Energy**  
350 Ottawa Avenue NW, Unit 10  
Grand Rapids, MI 49503

- transmitted via email & overnight carrier-

**Subject:** *Response to EGLE-AQD Violation Notice of September 18, 2019  
DTE Electric Company – Renaissance Power Plant  
Milford, MI*

Dear Ms. Hollenbach:

This letter is in response to the EGLE Air Quality Division's Violation Notice referenced above. The notice cited the following:

Process Description	Rule/Permit Condition Violated	Comments
FG-Turbine1-4SC	MI-ROP-N6873-2015a, FG-Turbine1-4SC Special Condition SC 1.7	Exceedance of 9.0 pound per hour emission limit for PM10 at 100% load from Unit 4.

**Emission Test Summary and Current Plant Operating Status**

Testing required by MI-ROP-N6873-2015a was completed over the period July 10-11, 2019. The testing was completed on Unit 4. Emissions of volatile organic compounds (VOC), formaldehyde and particulate matter less than 10 microns (PM10) were measured at both 100% and 70% of maximum operating load. The permitted emissions limits for all parameters were met at 70% load. At 100% load, VOC and formaldehyde emissions met permitted emissions limits, but PM10 emissions exceeded the permitted limit. A second PM10 emissions test was subsequently conducted on August 27-28, 2019 using different test methods, approved in advance by Department of Environment, Great Lakes and Energy (EGLE). Despite the different methodology, the PM10 emissions limit was once again exceeded.

In response to these PM10 test failures, DTE Energy (DTE) acted promptly and responsibly. Upon learning about the July 10-11, 2019 100% load PM10 test failure, DTE ordered that Unit 4 not operate above 70% load when required to operate (PM10 emissions were in compliance at 70%

load). Then upon learning about the August 27-28, 2019 100% PM10 test failure, DTE ordered that all four units at the facility be limited to less than or equal to 70% load when required to operate. The units at Renaissance (RENPP) are peaking units, and in response to MISO dispatch orders do not typically operate on a daily basis. However, with an operating derate in place we ensured that if they were called on to run, they would not run above 70% load until such time as full load compliance has been achieved.

### **Root Cause Investigation**

With a corporate goal to become a Best Operated Energy Company, DTE strives daily to achieve Continuous Improvement (CI). As environmental compliance is fundamental to becoming a Best Operated Energy Company, the PM10 test problems at RENPP immediately triggered problem solving activities. Through the guidance of a DTE CI Subject Matter Expert, we are actively and aggressively examining our process to determine the Root Cause of this problem.

Early analysis of the situation identified test methodology as a potential issue. That is why the second test event (August 27-28, 2019) was conducted. When the results from the second test failed to identify test method as the root cause, the problem solving efforts naturally shifted to more complex issues related to operation and testing of the RENPP turbines. There are many moving parts to the problem and each needs to be thoroughly examined. The urgency of this problem triggered an "all hands on deck" response. In the process, we have tapped the knowledge of personnel both within and outside DTE. A wealth of knowledge and experience resides within the staff at DTE. Through the course of the investigation we have had discussions with internal experts from Environmental Management & Resources, Peakers, DTE Gas, Gas Transmission & Supply, Gas Control, and Fossil Generation-Engineering Support Organization.

From outside DTE experts from consultants, equipment suppliers, combustion turbine user groups, and other utilities have been contacted to support our problem solving. Included in this list are stack test experts from both Ramboll and Montrose Air Quality Services in California, where compliance testing is especially challenging, experts from Siemens, the manufacturer of the turbines used at RENPP, and experts at utilities such as Florida Power & Light, NRG Energy Systems, Luminant, Oklahoma Gas & Electric, Xcel Energy, and others.

With this info, our team continues to work to pinpoint a root cause, or causes. The focus has narrowed to fuel quality/conditioning, deterioration of the silencer baffles located inside of the exhaust duct, and emissions testing materials. On September 24, 2019, EGLE staff witnessed "engineering testing" conducted on the exhausts from both Unit 4 and Unit 3. The purpose of this testing was to determine if type of sampling materials used for testing have an impact on measured emissions. Analysis of the results of this particular investigation are not yet complete.

While many potential root causes have been eliminated through the course of our investigation, no final root cause has yet been identified. All remaining potential root causes are still under active evaluation. As part of those efforts, material samples were collected as recently as yesterday, with results from those samples still pending.

**Future Actions**

DTE will conduct a retest of PM10 emissions from Unit 4, as soon as we are comfortable that our investigation has gone as far as it can go. While the need for additional "engineering testing" is possible at this time, our goal is to complete a formal compliance demonstration test as soon as possible. As we have been doing, we will keep EGLE staff from both the Grand Rapids District Office and the Technical Programs Unit aware of progress and plans. Once we understand the root cause and demonstrate full compliance, we will also provide EGLE with actions that will be taken to prevent reoccurrence.

If you have any additional questions, please contact me at (313) 897-0298 or [thomas.durham@dteenergy.com](mailto:thomas.durham@dteenergy.com).

Sincerely,

**DTE ENERGY CORPORATE SERVICES, LLC**

A handwritten signature in black ink, appearing to read "Thomas Durham". The signature is fluid and cursive, with the first name being more prominent.

Thomas Durham  
Manager, Environmental Field Services  
Environmental Management & Resources (EM&R)

cc Jenine Camilleri – Enforcement Unit-EGLE  
Karen Kajiya-Mills – Technical Programs Unit-EGLE  
Margaret Guillaumin – DTE  
Rahn Ledesma – DTE  
Stefanie Ledesma – DTE