DTE Energy

VIA CERTIFIED MAIL

December 23, 2013

Mr. Brian Carley, Environmental Quality Specialist
Air Quality Division
Michigan Department of Environmental Quality
301 E. Louis B. Glick Highway
Jackson, MI 49201-1556

Re: DTE Electric Company Response to the MDEQ-AQD Violation Notice of December 2, 2013 for Compliance Stack Testing of Monroe Power Plant – Unit 4

Dear Mr. Carley:

This letter is DTE Electric Company's response to the Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Violation Notice dated December 2, 2013 (VN) sent to Monroe Power Plant. The VN cites the failure of compliance stack emission tests for particulate matter (PM) performed on Monroe Unit 4 on September 10, 2013, and documented in the test report sent to MDEQ-AQD on November 8, 2013. The test performed was required periodic compliance testing per Permit to Install (PTI) 27-13. This response incorporates by reference DTE Electric Company's November 8, 2013 test report submittal. It also incorporates the results of the fourth quarter PM compliance testing performed on October 31, 2013 which show compliance with the permit limit. The test report for that testing is being submitted in conjunction with this VN response. A summary of the permit PM emission limit and these stack tests is below.

Monroe Power Plant Unit 4 PM Emissions Summary (lb/mmBtu)

Permit Limit	September 10, 2013 Stack Test	October 31, 2013 Stack Test
0.011	0.014	0.007

During Unit operation, DTE Electric Company monitors many operational parameters for each of their pollution control processes. This data includes but is not limited to electrostatic precipitator performance, opacity, sulfur trioxide feed rate and conversion percentages, selective catalytic reduction (SCR) nitrogen oxides reduction efficiency and ammonia slip, flue gas

desulfurization (FGD) system liquid and gas stream flow rates, reaction chemistries and sulfur dioxide (SO_2) removal efficiencies, as-fired fuel analysis, boiler load and heat rates as well as emissions monitoring of carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen oxides, and mercury. At the time of the emissions testing on Unit 4, all of these parameters were within normal operating ranges.

PM emissions are controlled primarily by the ESP & FGD systems. The FGD provides for the plant's ability to meet the stringent PM emission limits set forth in PTI 27-13. Investigation into FGD operation at the time of the testing shows no direct conclusive evidence related to the excess emissions. Through the investigation, it is believed that some amount of pluggage in the FGD components including the mist eliminator system contributed to the PM emissions observed by the stack testing. Several parameters are monitored during operation. Inspection of the FGD during a unit outage of sufficient duration is required to determine the extent of pluggage. The last inspection of this kind was performed during an outage in April 2013. The inspection showed some pluggage and the area was cleaned during the outage.

Unit 4 is scheduled to be taken offline for an extended maintenance outage on January 2014. At this time, extensive inspection will occur in the FGD absorber of the mist eliminator system. The mist eliminators consist of two layers in series of chevron shaped panels that traverse the width of the absorber designed to trap vapor droplets on their surface, causing them to drop back into the absorber tower rather than exit the stack in the gas stream. These mist eliminators can become plugged with gypsum (a product of SO_2 reacting with limestone in the FGD slurry) that can be deposited on the surface of each layer. To minimize this pluggage, water sprays are used. These water sprays utilize high pressure nozzles upstream of both mist eliminator sections to break up gypsum deposits and re-entrain them in water droplets to return to the absorber tower and FGD slurry. Outage activities will include a thorough inspection of all of the components of these systems. Mist eliminators will also be washed down before return to service. Repairs will be made as necessary prior to the unit being brought online at the end of the outage. The outage is currently scheduled for 6 weeks.

Subsequent PM Compliance Stack Emission Testing

As mentioned previously, stack testing was performed on Unit 4 in October subsequent to the test in September which was subject to the VN. Notwithstanding the third quarter PM compliance test, DTE Electric Co. has operated Unit 4 in compliance with all emission limits and has operated its pollution control devices in a satisfactory manner, as required by the permit. Results of the October stack testing show Unit 4's PM emissions are in compliance with the permit limit, at 0.007 lb/mmBtu. Quarterly PM compliance testing will continue throughout 2014 once the Unit returns to service.

Status of the Particulate Matter Monitoring

Per PTI 27-13 SC VI.3, DTE Electric Company must implement a method to continuously monitoring particulate emissions from all of its FGD controlled units by January 1, 2015. The current plan is to install PM CEMS on all four units at Monroe Power Plant. Installation work will begin in 2014. The PM emissions monitors will provide real-time data to assess emissions limit compliance as well as signal possible operational or equipment issues. The monitors will be a significant upgrade in our capability to continuously monitor emissions compared to the current periodic stack testing.

Ensuring Compliance Prior to PM Monitoring

As the plant transitions to continuous PM monitoring, we are proposing that the following will provide ongoing compliance in 2014:

- Quarterly PM emissions stack testing will be performed as required by PTI 27-13. The first test will be performed as soon as possible after the previously discussed outage with subsequent testing throughout 2014. We will notify MDEQ of all planned testing as required and DEQ staff will be invited to attend any testing performed. This testing will allow for four PM emissions compliance stack tests over a ten month period prior to continuous PM monitors being installed.
- Inspection, cleaning & maintenance of the FGD system and its components will be performed during the Unit 4 outage in early 2014. Lessons learned from any of this work will be documented and used in future inspections. Additionally, we will provide information from these inspections and the work associated with this outage to MDEQ as it becomes available.
- Any outage of sufficient duration to do so safely in 2014 will include inspection of this equipment with cleaning & maintenance performed as deemed necessary by the inspection. Typically this would be any outage of five days or longer in which the FGD equipment is off line.

We believe these actions will ensure compliance in 2014 and the significant investment in continuous monitors will provide ongoing BACT-level compliance in the future. Although the permit limits set forth in PTI 27-13 are amongst the most stringent in the country and significantly lower than even the most restrictive future regulatory limits, including the Federal MATS regulations (40CFR63 Subpart UUUUU), we are committed to meeting all permit limits. The large investments made by the company in pollution control equipment signify our level of

commitment to achieving significant emissions reductions to meet all regulatory and permitted emissions limits.

If you have any questions on the information contained herein or would like further information, please contact Ms. Kelly Johnson at (734) 384-2560 or johnsonk@dteenergy.com.

Sincerely,

Paul Tracy
Plant Manager – Monroe Power Plant

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