

December 21, 2007

Mr. Steven E. Kurmas
Designated Representative
DTE Energy Company
2000 Second Avenue
Detroit, Michigan 48226-1279

Re: Petition for an Alternative Mercury Monitor Certification Deadline for Units 3 and 4 at the Monroe Power Plant (Facility ID (ORISPL) 1733)

Dear Mr. Kurmas:

The United States Environmental Protection Agency (EPA) has reviewed the August 21, 2007 petition submitted under 40 CFR 75.(80(h)(1) by the DTE Energy Company (DTE), in which DTE requested an alternative mercury monitoring system certification deadline for Units 3 and 4 at the Monroe Power Plant. EPA approves the petition, with conditions, as discussed below.

Background

DTE owns and operates two coal-fired boilers, Units 3 and 4 at the Monroe Power Plant (Monroe), located in Monroe County, Michigan. These units are subject to the emission monitoring and reporting requirements of the Clean Air Mercury Regulation (CAMR). The units are also subject to the Acid Rain Program.

The owner or operator of an existing unit subject to CAMR is required to install and certify a mercury (Hg) emission monitoring system, in accordance with Subpart I of 40 CFR Part 75, no later than January 1, 2009. Further, units subject to CAMR that build a new stack or install add-on control equipment that reduces Hg emissions are required to meet another Hg monitoring system certification deadline. The owner or operator must certify Hg monitoring systems within 90 unit operating days or 180 calendar days (whichever comes first) after emissions first exit to the atmosphere through the new stack or control equipment.

DTE intends to install a flue gas desulfurization (FGD) system to control sulfur dioxide (SO₂) emissions from Monroe Units 3 and 4 with a co-benefit of reducing Hg emissions. Construction of the FGD and a new stack began in 2006 and is expected to be completed by the fall of 2009. Emissions from Units 3 and 4 will exit to the atmosphere through two independent flues encased in the new stack.

Currently, DTE monitors and reports the sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂) emissions from Units 3 and 4 at a common stack, to satisfy the requirements of the Acid Rain Program. When the FGD installation is

complete, the emissions from Units 3 and 4 will be monitored separately at each of the new flues. The existing common stack for Units 3 and 4 will remain in place following construction of the new stack and is under design review for demolition in 2010 or 2011. According to DTE, the design of the new pollution control equipment and stack flues does not allow for any bypass flow during any mode of operation.

Due to the timing of the stack and FGD installation, CAMR requires DTE to meet two separate Hg monitoring system certification deadlines for Monroe Units 3 and 4. First, DTE must install and certify Hg monitoring systems for these units by January 1, 2009. Second, in the Fall of 2009 when construction of the new stack is completed and the FGD becomes operational, DTE will be required to install and certify Hg monitoring systems on the new stack, within 90 unit operating days or 180 calendar days (whichever comes first) after emissions first exit to the atmosphere through the stack.

In the August 21, 2007 petition, DTE requested that the January 1, 2009 deadline be extended to coincide with the monitor certification deadline associated with the FGD installation and construction of the new stack. DTE further proposed to ensure that Hg monitoring systems for Units 3 and 4 would be installed and certified no later than December 31, 2009.

According to DTE, EPA should consider extending the January 1, 2009 monitor certification deadline for the following reasons. The present exhaust configuration for Monroe Units 3 and 4 would require a Hg monitoring system to be installed and certified to meet the requirements of CAMR. DTE believes that this would not only be costly and put a strain on its limited resources, but also would provide no environmental benefit. The Hg monitor would be used only for about nine months until construction of the FGD and new stack is completed. After that, the Hg mass emissions from each unit would be measured with separate Hg monitoring systems installed on each flue of the new stack.

Further, the August 21, 2007 petition states that extending the monitor certification deadline would have a *de minimis*, if any, adverse impact. According to DTE, emissions data from a Hg monitoring system installed in the present exhaust configuration would be unrepresentative of the Hg emission levels that will exist after the FGD becomes operational, and therefore the data would be of little value. DTE believes that the main goal of CAMR, i.e., to reduce Hg emissions, would not be compromised if EPA were to grant the requested regulatory relief. Certified Hg monitoring systems for Monroe Units 3 and 4 would be in place by December 31, 2009, before the measured Hg emissions begin to count against the state Hg emissions budget under CAMR.

EPA's Determination

EPA conditionally approves DTE's petition for an extension of the January 1, 2009 Hg monitoring certification deadline for Monroe Units 3 and 4. Under the following unique circumstances, EPA concludes that the January 1, 2009 mercury monitoring certification deadline for Monroe Units 3 and 4 should be extended, with conditions, to the earlier of: (a) December 31, 2009; or (b) 90 unit operating days or 180

calendar days (whichever occurs first) after the date on which emissions first exit to the atmosphere through the new stack or FGD system:

- First, DTE is constructing a FGD system (including a new stack) that will reduce SO₂ and Hg emissions from the units. If DTE were to install a Hg monitoring system by January 1, 2009 on the common stack, DTE would have to discontinue using this system after only about 9 months of operation, when construction of the FGD system and new stack is completed. Then, two new Hg monitoring systems would have to be installed and certified, i.e., one on each of the new flues.
- Second, DTE states that the FGD system will be completed by the fall of 2009 and the Hg monitoring systems on the new flues will be certified by December 31, 2009.
- Third, the requirement for Hg emissions reductions under CAMR begins in 2010. Not only will Hg emissions data recorded during calendar year 2009 not be used to determine compliance with CAMR, but also, due to the future installation of FGD systems and the need to install and operate continuous Hg monitoring systems in new locations on new stacks, any continuous Hg monitoring systems installed on the existing stack, and any pre-2010 Hg emissions data from such monitoring systems on the existing stack, would not be representative of the units' Hg monitoring systems and Hg emissions in 2010 and thereafter.

EPA concludes that requiring a Hg monitoring system to be installed and certified in the existing common stack at Monroe Units 3 and 4 by January 1, 2009 would serve little or no purpose under CAMR. The Agency is therefore approving, with conditions, an extension of that certification deadline to whichever of the following dates occurs first: (a) December 31, 2009; (b) 90 unit operating days after the date on which emissions first exit to the atmosphere through the new stacks or FGD system; or (c) 180 calendar days after the date on which emissions first exit to the atmosphere through the new stacks or FGD system.

However, although EPA is extending the January 1, 2009 Hg monitor certification deadline for Monroe Units 3 and 4, DTE must still report Hg mass emissions using the Hg low mass emission (HgLME) monitoring methodology, and heat input data using the existing monitoring systems under the Acid Rain Program, for these units in 2009. Although the HgLME methodology is not intended for use by units such as Monroe Units 3 and 4 that have annual Hg mass emissions greater than 29 lbs, allowing the HgLME methodology to be used for 2009 is a reasonable alternative for getting emissions data that are required under CAMR, but that will not be used to determine whether the Hg emissions reductions required under CAMR (i.e., the reductions required in 2010 and thereafter) are met. In this case, Hg emissions data reported in 2009 using the HgLME methodology will not compromise the integrity of CAMR. Therefore, the conditions of this approval are as follows:

- (1) On or before December 31, 2008, DTE shall perform mercury (Hg) emission testing on the common stack for Monroe Units 3 and 4 as described in 40 CFR 75.81(c)(1). A minimum of three test runs at normal load is required, while coal is being combusted. Units 3 and 4 shall be in operation at typical, normal load levels during the tests;
- (2) From the results of these emission tests, DTE shall determine a default Hg emission factor for the common stack, in $\mu\text{g}/\text{m}^3$ at standard conditions. The default emission factor shall be the greater of: (a) the highest Hg concentration from any test run for any of the units serving the common stack; or (b) $0.50 \mu\text{g}/\text{m}^3$;
- (3) In 2009, for each hour of operation prior to completion of the FGD installation, DTE shall use the appropriate default Hg concentration from (2) above to calculate the hourly Hg mass emissions in ounces for the common stack. These calculations shall be performed according to section 9.1.3 in Appendix F to 40 CFR Part 75. All Hg emissions from the units must be accounted for. For any hour that quality-assured data from the stack gas flow rate monitor are unavailable, the appropriate missing data procedures from 40 CFR Part 75, Subpart D shall be used;
- (4) In 2009, DTE shall comply with the applicable recordkeeping and reporting requirements in 40 CFR 75.84 for Monroe Units 3 and 4;
- (5) Starting on the date and hour when emissions first exit to the atmosphere through the new flues serving Units 3 and 4, DTE shall discontinue reporting common stack level emissions data and shall begin reporting unit level emissions data for all parameters;
- (6) For the monitoring systems installed on the new flues, DTE shall follow the applicable monitor certification and data validation guidelines in Questions 16.14 through 16.16 in the "Part 75 Emissions Monitoring Policy Manual". For the purposes of this approval, those general guidelines are extended to include Hg monitoring systems;
- (7) DTE shall install and certify Hg monitoring systems to quantify the Hg mass emissions from Monroe Units 3 and 4 by the earlier of: (a) December 31, 2009; or (b) 90 unit operating days or 180 calendar days (whichever occurs first) after the date on which emissions first exit to the atmosphere through the new stacks or FGD system; and
- (8) If the monitoring system certification deadline in paragraph (7) above is not met, DTE shall report the maximum potential Hg concentration, as defined in section 2.1.7.1 of Appendix A to 40 CFR Part 75, beginning with the first unit operating hour after the deadline and continuing until all required certification

tests of the required Hg monitoring systems have been successfully completed.

EPA's determination relies on the accuracy and completeness of the information provided by DTE in the August 21, 2007 petition and is appealable under 40 CFR Part 78. If you have any questions about this determination, please contact Louis Nichols at (202) 343-9008. Thank you for your continued cooperation.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

cc: Constantine Blathras, EPA Region V
Karen Kajiya-Mills, Michigan DEQ
Louis Nichols, CAMD