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 Air Quality Division
 301 East Louis Glick Highway
 Jackson, MI 49201-1535

RE: DTE Electric Company Response to the EGLE-AQD Violation Notices of February 11 and February 12 Issued to Monroe Power Plant

This letter is in response to the Violation Notices (VN) issued by EGLE-AQD on February 11 and February 12 to Monroe Power Plant related to particulate matter continuous emission monitor (CEM) downtime and failure to update the malfunction abatement plan (MAP). The VNs cited the following:

Process Description	Rule/Permit Condition Violated	Comments
EU-UNIT4, Coal-fired cell burner boiler	R 336.1910/EU-UNIT4 SCIV.1; FGMATS SCIV.1, SC VI.5	Malfunctioning mist eliminator trays and wash nozzles cause by pluggage in the flue gas desulfurization control device caused the unit's SO ₂ , NO _x , CO, and CO ₂ CEMS to malfunction for 190 consecutive hours.
	EU-UNIT4 SC III.1	Failed to update malfunction abatement plan (MAP) 45 days after determining cause of FGD malfunction.
	EU-UNIT4, SC VI.3; FGMATS, SC VI.5, SC VI.6, SC VI.9, SC VI.10	Fourth quarter 2020 SO ₂ , NO _x , CO, CO ₂ monitor downtime was 9.9% of the operating time for the quarter.

DTE Electric's response provides its review of the situation and identifies actions taken and proposed to be taken to prevent recurrence. Emissions data using data substitution per 40 CFR Part 75, as applicable, is included as an attachment to this submittal as requested. This data shows that there were no emissions exceedances during the period in question. Further information on this determination is outlined below.

DTE Electric Company reported 190 hours of monitor downtime for each of the SO₂, NO_x, CO₂, and CO monitors on Unit 4 for the fourth quarter of 2020. This accounted for 9.9% monitor downtime for the operating quarter. The period in question started on November 25, 2020 and the monitors were returned to service on December 3, 2020.

The monitor downtime was caused by a plugged dilution sample probe filter. This pluggage in the monitor probe stemmed from particulate entering the probe and plugging the stone filter within the system. The flue gas desulfurization (FGD) system at the plant uses a limestone slurry which reacts with components of the stack gas to control emissions. That slurry contains particulate which can enter the monitoring system intake. Although this issue caused the pluggage of the dilution sample probe filter, it is important to note that FGD system continued to control emissions as designed.

On November 29, 2020 the referenced monitors failed daily calibrations. After initial efforts to bring the monitors back into calibration were unsuccessful, additional resources were brought into the plant to investigate the issue. This is when the plant instrument and control (I&C) technicians discovered the plugged probe filter. The filter was removed and cleaned and returned to the system. This was thought to have addressed the issue and the monitors were returned to service. The unit was operating in a “cycling” mode during this period and load was varying between low and high load operation. As the load on the unit increased after the filter was replaced, CO₂ monitor data at higher loads did not increase accordingly. Further investigation revealed that the probe had not been cleared of all pluggage. Emissions data at low loads did not indicate an issue, but the higher load operation had signalled that the issue persisted. After a full investigation, downtime back to November 25, 2020 was identified which hadn't been evident due to lower load operation. Additional cleaning of the probe was completed through December 3, 2020 when the issue was completely resolved. The monitors were returned to normal operation and measures were put in place to ensure normal operation continued. Unit 4 began a periodic maintenance outage on February 21, 2021 and is expected to last through mid-May. Outage work includes maintenance to the mist elimination system and upgrading chevrons within the FGD system which will minimize particulate in the stack to the extent possible.

Mist eliminator inspections have been a part of the plant's planned periodic and forced maintenance outage plans for several years. However, the plant has made changes to its ongoing maintenance procedures. In addition to the mist eliminator inspections performed during outages, the following will be performed during outages of sufficient duration:

- Perform mist eliminator spray functional test for plugged/broken nozzles and headers
- Inspect and clean mist eliminator trays for plugging
- Inspect and clean base of stack and stack drains

The additional testing and inspections are expected to identify such issues going forward. The changes indicated above are being added to the plant's MAP associated with the FGD

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period End:	NOx Emissions	
	12-Month Rolling Average	
	lb/mmbtu	ton/month
November 30, 2020	0.068	103.9
December 31, 2020	0.068	106.7
January 31, 2021	0.070	106.2
Permit Emission Limit:	0.080	222.6

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	SO2 Emissions	
	24-Hour Rolling Average	
	lb/mmBtu	lbs/hr
11/25/2020 00:00	0.0779	431
11/25/2020 01:00	0.0778	431
11/25/2020 02:00	0.0776	430
11/25/2020 03:00	0.0776	431
11/25/2020 04:00	0.0776	431
11/25/2020 05:00	0.0772	429
11/25/2020 06:00	0.0771	428
11/25/2020 07:00	0.0773	429
11/25/2020 08:00	0.0777	432
11/25/2020 09:00	0.0781	433
11/25/2020 10:00	0.0776	432
11/25/2020 11:00	0.0773	431
11/25/2020 12:00	0.0771	431
11/25/2020 13:00	0.0773	433
11/25/2020 14:00	0.0775	435
11/25/2020 15:00	0.0776	437
11/25/2020 16:00	0.0776	438
11/25/2020 17:00	0.0778	441
11/25/2020 18:00	0.0776	441
11/25/2020 19:00	0.0776	442
11/25/2020 20:00	0.0776	443
11/25/2020 21:00	0.0771	442
11/25/2020 22:00	0.0774	446
11/25/2020 23:00	0.0772	448
11/26/2020 00:00	0.0771	449
11/26/2020 01:00	0.0769	451
11/26/2020 02:00	0.0768	452
11/26/2020 03:00	0.0766	454
11/26/2020 04:00	0.0766	456
11/26/2020 05:00	0.0764	457
11/26/2020 06:00	0.0763	459
11/26/2020 07:00	0.0757	455
11/26/2020 08:00	0.0752	450
11/26/2020 09:00	0.0753	451
11/26/2020 10:00	0.0753	452
11/26/2020 11:00	0.0753	453
11/26/2020 12:00	0.0753	455
11/26/2020 13:00	0.0753	456
11/26/2020 14:00	0.0753	458
11/26/2020 15:00	0.0753	459
11/26/2020 16:00	0.0753	460
11/26/2020 17:00	0.0753	461
11/26/2020 18:00	0.0753	462
11/26/2020 19:00	0.0753	463
11/26/2020 20:00	0.0753	464
11/26/2020 21:00	0.0753	464
11/26/2020 22:00	0.0753	465
11/26/2020 23:00	0.0753	464
11/27/2020 00:00	0.0753	464
11/27/2020 01:00	0.0753	463
11/27/2020 02:00	0.0753	463
11/27/2020 03:00	0.0753	462
11/27/2020 04:00	0.0753	462
11/27/2020 05:00	0.0753	461
11/27/2020 06:00	0.0753	461

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	SO2 Emissions	
	24-Hour Rolling Average	
	lb/mmBtu	lbs/hr
11/27/2020 07:00	0.0753	463
11/27/2020 08:00	0.0753	466
11/27/2020 09:00	0.0753	466
11/27/2020 10:00	0.0753	466
11/27/2020 11:00	0.0753	465
11/27/2020 12:00	0.0753	464
11/27/2020 13:00	0.0753	463
11/27/2020 14:00	0.0753	462
11/27/2020 15:00	0.0753	462
11/27/2020 16:00	0.0753	462
11/27/2020 17:00	0.0753	461
11/27/2020 18:00	0.0753	461
11/27/2020 19:00	0.0753	461
11/27/2020 20:00	0.0753	461
11/27/2020 21:00	0.0753	460
11/27/2020 22:00	0.0753	459
11/27/2020 23:00	0.0753	459
11/28/2020 00:00	0.0753	460
11/28/2020 01:00	0.0753	460
11/28/2020 02:00	0.0753	460
11/28/2020 03:00	0.0753	460
11/28/2020 04:00	0.0753	460
11/28/2020 05:00	0.0753	461
11/28/2020 06:00	0.0753	461
11/28/2020 07:00	0.0753	461
11/28/2020 08:00	0.0753	460
11/28/2020 09:00	0.0753	460
11/28/2020 10:00	0.0753	461
11/28/2020 11:00	0.0753	461
11/28/2020 12:00	0.0753	461
11/28/2020 13:00	0.0753	461
11/28/2020 14:00	0.0753	461
11/28/2020 15:00	0.0753	459
11/28/2020 16:00	0.0753	459
11/28/2020 17:00	0.0753	459
11/28/2020 18:00	0.0753	458
11/28/2020 19:00	0.0753	458
11/28/2020 20:00	0.0753	458
11/28/2020 21:00	0.0753	458
11/28/2020 22:00	0.0753	458
11/28/2020 23:00	0.0753	458
11/29/2020 00:00	0.0753	457
11/29/2020 01:00	0.0753	457
11/29/2020 02:00	0.0753	457
11/29/2020 03:00	0.0753	457
11/29/2020 04:00	0.0753	456
11/29/2020 05:00	0.0753	456
11/29/2020 06:00	0.0753	456
11/29/2020 07:00	0.0758	456
11/29/2020 08:00	0.0768	456
11/29/2020 09:00	0.0778	456
11/29/2020 10:00	0.0783	456
11/29/2020 11:00	0.0783	456
11/29/2020 12:00	0.0783	456
11/29/2020 13:00	0.0794	463

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	SO2 Emissions	
	24-Hour Rolling Average	
	lb/mmBtu	lbs/hr
11/29/2020 14:00	0.0806	470
11/29/2020 15:00	0.0811	475
11/29/2020 16:00	0.0812	477
11/29/2020 17:00	0.0812	478
11/29/2020 18:00	0.0812	478
11/29/2020 19:00	0.0811	478
11/29/2020 20:00	0.0812	479
11/29/2020 21:00	0.0807	476
11/29/2020 22:00	0.0796	471
11/29/2020 23:00	0.0788	466
11/30/2020 00:00	0.0777	460
11/30/2020 01:00	0.0765	453
11/30/2020 02:00	0.0753	446
11/30/2020 03:00	0.0741	439
11/30/2020 04:00	0.0729	432
11/30/2020 05:00	0.0722	428
11/30/2020 06:00	0.0721	428
11/30/2020 07:00	0.0720	429
11/30/2020 08:00	0.0719	434
11/30/2020 09:00	0.0722	442
11/30/2020 10:00	0.0729	449
11/30/2020 11:00	0.0741	456
11/30/2020 12:00	0.0753	457
11/30/2020 13:00	0.0753	450
11/30/2020 14:00	0.0753	442
11/30/2020 15:00	0.0753	435
11/30/2020 16:00	0.0753	427
11/30/2020 17:00	0.0753	420
11/30/2020 18:00	0.0753	412
11/30/2020 19:00	0.0753	405
11/30/2020 20:00	0.0753	397
11/30/2020 21:00	0.0753	392
11/30/2020 22:00	0.0753	391
11/30/2020 23:00	0.0753	391
12/01/2020 00:00	0.0753	390
12/01/2020 01:00	0.0753	390
12/01/2020 02:00	0.0753	390
12/01/2020 03:00	0.0753	390
12/01/2020 04:00	0.0753	390
12/01/2020 05:00	0.0753	389
12/01/2020 06:00	0.0753	389
12/01/2020 07:00	0.0753	387
12/01/2020 08:00	0.0753	382
12/01/2020 09:00	0.0753	374
12/01/2020 10:00	0.0753	366
12/01/2020 11:00	0.0753	360
12/01/2020 12:00	0.0753	361
12/01/2020 13:00	0.0753	364
12/01/2020 14:00	0.0753	366
12/01/2020 15:00	0.0753	369
12/01/2020 16:00	0.0753	373
12/01/2020 17:00	0.0753	377
12/01/2020 18:00	0.0753	381
12/01/2020 19:00	0.0753	386
12/01/2020 20:00	0.0753	391

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	SO2 Emissions	
	24-Hour Rolling Average	
	lb/mmBtu	lbs/hr
12/01/2020 21:00	0.0753	394
12/01/2020 22:00	0.0753	395
12/01/2020 23:00	0.0753	395
12/02/2020 00:00	0.0753	395
12/02/2020 01:00	0.0753	395
12/02/2020 02:00	0.0753	395
12/02/2020 03:00	0.0753	395
12/02/2020 04:00	0.0753	394
12/02/2020 05:00	0.0753	395
12/02/2020 06:00	0.0753	396
12/02/2020 07:00	0.0753	399
12/02/2020 08:00	0.0753	402
12/02/2020 09:00	0.0753	406
12/02/2020 10:00	0.0753	409
12/02/2020 11:00	0.0753	412
12/02/2020 12:00	0.0753	413
12/02/2020 13:00	0.0753	413
12/02/2020 14:00	0.0753	413
12/02/2020 15:00	0.0753	413
12/02/2020 16:00	0.0753	413
12/02/2020 17:00	0.0753	414
12/02/2020 18:00	0.0753	414
12/02/2020 19:00	0.0753	413
12/02/2020 20:00	0.0753	410
12/02/2020 21:00	0.0753	407
12/02/2020 22:00	0.0753	406
12/02/2020 23:00	0.0753	407
12/03/2020 00:00	0.0753	408
12/03/2020 01:00	0.0753	409
12/03/2020 02:00	0.0753	411
12/03/2020 03:00	0.0753	414
12/03/2020 04:00	0.0753	420
12/03/2020 05:00	0.0753	427
12/03/2020 06:00	0.0753	432
12/03/2020 07:00	0.0753	436
12/03/2020 08:00	0.0727	424
12/03/2020 09:00	0.0708	417
12/03/2020 10:00	0.0682	406
12/03/2020 11:00	0.0660	396
12/03/2020 12:00	0.0641	388
12/03/2020 13:00	0.0621	379
12/03/2020 14:00	0.0595	366
12/03/2020 15:00	0.0568	353
12/03/2020 16:00	0.0549	341
12/03/2020 17:00	0.0523	324
12/03/2020 18:00	0.0496	308
12/03/2020 19:00	0.0477	298
12/03/2020 20:00	0.0460	287
12/03/2020 21:00	0.0441	277
12/03/2020 22:00	0.0421	266
12/03/2020 23:00	0.0401	254
12/04/2020 00:00	0.0381	243
12/04/2020 01:00	0.0362	232
12/04/2020 02:00	0.0340	219
12/04/2020 03:00	0.0315	205

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	SO2 Emissions	
	24-Hour Rolling Average	
	lb/mmbtu	lbs/hr
12/04/2020 04:00	0.0292	190
12/04/2020 05:00	0.0276	180
12/04/2020 06:00	0.0251	163
12/04/2020 07:00	0.0224	146
12/04/2020 08:00	0.0225	147
12/04/2020 09:00	0.0219	143
12/04/2020 10:00	0.0218	142
12/04/2020 11:00	0.0215	139
12/04/2020 12:00	0.0208	133
12/04/2020 13:00	0.0202	127
12/04/2020 14:00	0.0204	126
12/04/2020 15:00	0.0204	124
12/04/2020 16:00	0.0199	122
12/04/2020 17:00	0.0198	123
12/04/2020 18:00	0.0200	125
12/04/2020 19:00	0.0199	124
12/04/2020 20:00	0.0198	125
12/04/2020 21:00	0.0197	124
12/04/2020 22:00	0.0196	123
12/04/2020 23:00	0.0196	122
Permit Emission Limit:	0.107	815.8

DTE Electric Company		
Monroe Power Plant - Unit 4		
Period Start:	CO Emissions	
	30-Day Rolling Average	
	lb/mmbtu	lbs/day
11/24/2020 00:00	0.0647	9775.2
11/25/2020 00:00	0.0705	10723.3
11/26/2020 00:00	0.0737	11255.7
11/27/2020 00:00	0.0773	11840.3
11/28/2020 00:00	0.0832	12797.2
11/29/2020 00:00	0.0858	13217.2
11/30/2020 00:00	0.0869	13367.9
12/01/2020 00:00	0.0888	13623.3
12/02/2020 00:00	0.0903	13814.9
12/03/2020 00:00	0.0908	13889.8
12/04/2020 00:00	0.0803	12307.9
12/05/2020 00:00	0.0816	12567.1
12/06/2020 00:00	0.0766	11828.0
12/07/2020 00:00	0.0706	10992.9
12/08/2020 00:00	0.0711	11115.2
12/09/2020 00:00	0.0716	11244.3
12/10/2020 00:00	0.0662	10451.6
12/11/2020 00:00	0.0643	10192.8
12/12/2020 00:00	0.0654	10397.6
12/13/2020 00:00	0.0668	10642.2
12/14/2020 00:00	0.0672	10717.0
12/15/2020 00:00	0.0680	10863.9
12/16/2020 00:00	0.0718	11510.3
12/17/2020 00:00	0.0757	12182.1
12/18/2020 00:00	0.0812	13189.9
12/19/2020 00:00	0.0868	14226.1
12/20/2020 00:00	0.0865	14170.9
12/21/2020 00:00	0.0860	14118.3
12/22/2020 00:00	0.0821	13565.5
12/23/2020 00:00	0.0825	13658.2
12/24/2020 00:00	0.0825	13683.5
12/25/2020 00:00	0.0774	12862.0
12/26/2020 00:00	0.0747	12425.7
12/27/2020 00:00	0.0723	12038.5
12/28/2020 00:00	0.0668	11149.0
12/29/2020 00:00	0.0639	10669.9
12/30/2020 00:00	0.0618	10357.6
12/31/2020 00:00	0.0601	10132.0
01/01/2021 00:00	0.0590	9976.7
01/02/2021 00:00	0.0590	9925.1
Permit Emission Limit:	0.15	27,446.4