

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

FCE Summary Report

Facility : Corteva LLC	SRN : B4942
Location : 305 N HURON AVE	District : Bay City
	County : HURON
City : HARBOR BEACH	State: MI Zip Code : 48441 Compliance Status : Compliance
Source Class : MAJOR	Staff : Adam Shaffer
FCE Begin Date : 8/29/2022	FCE Completion Date : 8/29/2023
Comments : 2023 FCE Report.	

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
08/29/2023	On-site Inspection	Compliance	On-site inspection.
08/22/2023	Malfunction Abatement Plan	Compliance	A revised Malfunction Abatement Plan; with a last review date of August 9, 2023, was submitted to the AQD and received on August 16, 2023. The document consolidates the catalyst maintenance plan, catalyst MAP required by PTI No. 107-18C, TTU870 MAP, and the FTIR MAP into one document. Upon review, the document appears acceptable and a MAP approval letter, dated August 22, 2023, was sent to Corteva. (AShaffer, 08/22/23)
08/11/2023	Other Non ROP	Compliance	Per the ACO 2023-09 paragraph 12.B.1, monthly FTIR testing shall be completed for TTU's 850, 855, 860, 865 and 870. Testing was completed on July 17-18, 2023. Upon review, the test results appeared to show the TTU's emissions were with applicable limits per PTI No. 107-18C. (AShaffer, 08/11/23)

Activity Date	Activity Type	Compliance Status	Comments
08/11/2023	Other Non ROP	Compliance	Per the ACO 2023-09 paragraph 12.B.1, monthly FTIR testing shall be completed for TTU's 850, 855, 860, 865 and 870. Testing was completed on June 20-22, 2023. Upon review, the test results appeared to show the TTU's emissions were with applicable limits per PTI No. 107-18C. (AShaffer, 08/11/23)
08/10/2023	Rule 912	Compliance	A Rule 912 Report was submitted to the AQD and received on August 9, 2023. The report was regarding the elevated OHAP emission concentration profile identified on July 19, 2023, during a bakeout of their RTO (TTU 870). The bakeout was described as routine maintenance in order to burn off residue buildup to maintain adequate heat transfer between the vent gas and ceramic. During the online bakeout EPA 320 measurements showed the total OHAP concentration exceeded 20 ppmv. Prior to the 912 Report, Corteva had brought up if it was acceptable for total OHAP concentrations to exceed 20 ppmv if the pound per hour was below permit limits. After discussing this internally, AQD staff disagreed since this 20 ppmv is a MACT emission limit. Additionally, AQD staff disagreed that this would be considered routine maintenance per Rule 285(2)(a). In the Rule 912 Report, Corteva stated they have suspended all online bakeouts, with future bakeouts being conducted offline when the RTO is not controlling emissions. Corteva will continue to work with the manufacturers to identify ceramic maintenance activities that will not adversely impact the OHAP emission profile. At this time, the report appears acceptable and no further action is necessary at this time. (AShaffer, 08/10/23)
07/24/2023	Environmental Audit Notification	Compliance	Scope will include compliance records, employee training, compliance management systems, and employee interviews. No further action is necessary. (AShaffer, 07/24/23)

Activity Date	Activity Type	Compliance Status	Comments
06/23/2023	ROP Other	Compliance	Corteva submitted updated CAM and Catalyst Inspection and Maintenance Plans. After further review, the plans are acceptable.
06/12/2023	Other Non ROP	Compliance	Per the ACO 2023-09 paragraph 12.B.1, monthly FTIR testing shall be completed for TTU's 850, 855, 860, 865 and 870. Testing was completed on May 22-24, 2023. It was noted that the TTU865 catalyst was changed the week of June 5, 2023, and the catalyst for TTU850 will be changed the week of June 12, 2023. Upon testing, the OHAP (methanol + formaldehyde) test results for TTU855 were 16.88 ppmv on May 23, 2023. It appeared as a conservative measure the temperature was raised and upon retesting May 24, 2023, the OHAP results were 12.16 ppmv. The remaining TTU test results were within applicable emission limits per PTI No. 107-18C. (AShaffer, 06/12/23)
06/06/2023	ROP SEMI 2 CERT	Compliance	As required by MI-ROP-B4942-2020a, a Semi-Annual Compliance Report was submitted and received on March 3, 2023. A minor error was noted on the ROP Cert form. The reporting time periods were from 07/01/22 through 12/31/22. During this time period one deviation had been reported. The deviation was described as the total OHAP emission concentration for TTU 865, now including formaldehyde manufactured in the firebox, was approximately 24 ppmv. The deviation occurred on October 7, 2022, during monthly vent gas screening. The company immediately raised the firebox temperature from approximately 675 degrees Fahrenheit to over 875 degrees Fahrenheit which corrected the exceedance. No additional new deviations were reported. After further review, no additional action is necessary at this time. It should be noted now that Corteva is in the process of installing an FTIR monitor. (AShaffer, 06/06/23)

Activity Date	Activity Type	Compliance Status	Comments
06/06/2023	ROP Annual Cert	Compliance	<p>As required by MI-ROP-B4942-2020a, an Annual Compliance Report was submitted and received on March 3, 2023. A minor error was noted on the ROP Cert form. The reporting time periods were from 01/01/22 through 12/31/22. During this time period, three deviations were reported during the first half and one additional deviation was reported in the second half of 2022. The new deviation occurred on October 7, 2023, and was an OHAP emission limit exceedance for TTU 865. During monthly testing the OHAP concentration was determined to be 24 ppmv. Upon discovery, the firebox temperature was raised and follow up testing appeared to show satisfactory concentration levels. After further review, the four deviation descriptions and follow up corrective actions appear acceptable. It should be noted that Corteva is in the process of installing an FTIR monitor for the TTU's. No further action is necessary at this time. (AShaffer, 06/05/23)</p>
06/06/2023	Other Non ROP	Compliance	<p>Per the ACO 2023-09 paragraph 12.B.1, monthly FTIR testing shall be completed for TTU's 850, 855, 860, 865 and 870. Testing was completed on April 24-26, 2023. Upon review of test data, two excursions (850 and 865) were noted where OHAP (methanol + formaldehyde) concentrations were over 20 ppmv. Firebox temperatures were raised and follow up testing showed OHAP concentrations within acceptable ranges. No further action is necessary at this time and Corteva is still in the process of installing the FTIR monitor. (AShaffer, 06/06/23)</p>

Activity Date	Activity Type	Compliance Status	Comments
06/05/2023	MACT (Part 63)	Compliance	As required by MI-ROP-B4942-2020a, a 40 CFR 62 Subpart MMM Periodic Report, was submitted and received by the AQD on March 14, 2023. The reporting time period was from 07/01/2022 through 12/31/2022. During this time period the total duration of excess emissions was less than one percent. The emission limit exceedance with TTU865 on 10/7/22 was noted in this report. This was reported in the ROP Semi-Annual / Annual Compliance Report as a deviation. After further review the 40 CFR 63 Subpart MMM Report received appears acceptable. (AShaffer, 06/05/2023)
03/09/2023	MAERS	Compliance	Per MI-ROP-B4942-2020a, an ROP MAERS Certification was submitted to and received by the AQD on March 3, 2023. The 2022 MAERS Report was submitted electronically the same day and will be audited at a later date. The company noted that VOC emissions increased 2X and the reasoning was due to previous and current methods to determine emissions. Supporting documentation was attached. A minor error was noted in the ROP Cert form, however, the ROP MAERS Cert was concluded to be acceptable. (AShaffer, 03/09/23)

12/06/2022	ROP Semi 1 Cert	Compliance	<p>As required by MI-ROP-B4942-2020a, a Semi-Annual Compliance Report was submitted and received on September 8, 2022. A minor error was noted in the ROP Cert Form. The reporting time periods were 01/01/2022 through 06/30/2022. During this time period three deviations were reported. The first deviation was regarding the total OHAP emission concentration that now included formaldehyde was over the 20ppmv limit in January, February and March 2022. This deviation had been previously reported. It was noted that the unit in question to be over the 20 ppmv was TTU 865. Since April 2022, the unit has been below the 20 ppmv emission limit. It was determined that catalyst had been added in April 2022. The AQD is currently taking escalated enforcement against Corteva. The company plans to install an unofficial CEMs monitor that will be more efficient at identifying concerns than current monthly testing.</p> <p>The second deviation was regarding TTU 870 where elevated emission concentrations were noted during FTIR testing after maintenance was conducted. Additional follow up was completed and determined to have been the stator to roto gap being outside acceptable limits. This deviation had occurred in 2021, however, since additional corrective actions had been completed in 2022, this deviation was reported for completeness. A Violation Notice, dated February 24, 2022, had been issued to the company for the elevated emissions. Follow up testing appeared to show the emissions from TTU 870 to be in compliance. No further action is necessary.</p> <p>The third deviation was a V-405 Pressure Relief Device (PRD) was prematurely activated. The tank was described as isolated and taken out of service. Process engineering calculated approximately 2 lbs of xylene and 10 lbs of ethylbenzene released into the atmosphere. The PRD was replaced and a follow up</p>
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12/06/2022	ROP Semi 1 Cert	Compliance	LDAR Method 21 service provider verified that the repair was leak free. No further action is necessary. (AShaffer, 12/06/22)
12/06/2022	MACT (Part 63)	Compliance	As required by MI-ROP-B4942-2020a, a 40 CFR 62 Subpart MMM Periodic Report, was submitted and received by the AQD on September 8, 2022. The reporting time period was from 01/01/2022 through 06/30/2022. During this time period the total duration of excess emissions was less than one percent. Issues noted appeared to have been reported in the ROP Semi-Annual Compliance Report as deviations. Additionally, a review of the Subpart MMM Periodic Report was completed by AQD staff Mary Breeden. A report of Ms. Breeden findings is attached. After further review the 40 CFR 63 Subpart MMM Report received appears acceptable. (AShaffer, 12/06/2022)

Name: Adam J. Shaffer Date: 09/29/23 Supervisor: C. Stone

