



DART CONTAINER CORPORATION

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November 20, 2023

Mr. David Rauch
Air Quality Division – Lansing District Office
Michigan Department of Environmental, Great Lakes, and Energy
Constitution Hall, 2nd Floor, South
525 West Allegan Street
Lansing, Michigan 48933

RE: Dart Container of Michigan, LLC (D8065)
Violation Notice: D806520231101

Mr. Rauch,

This letter is in response to the violation notice letter (“NOV”), received on 11/01/2023 (referenced above) for Dart Container Corporation’s (“Dart”) facility (D8065) located in Mason, Michigan, and the associated test report dated 10/12/2023. Testing was required per ROP MI-ROP-D8065-2020, Section 1, EU-CUP-1, V.2 for the collection efficiency and destruction efficiency of Dart’s pentane collection system. Testing occurred August 15-16, 2023, and was observed by EGLE AQD staff.

The NOV was issued as the EGLE District Inspector questioned whether records provided by Dart demonstrated that emissions of pentane from the EU-CUP process equipment were being destroyed at the permitted and appropriate rate of ≥95% destruction of pentane from the cup making process. As noted by the NOV, conditions of ROP number MI-ROP-D8065-2020 set the destruction efficiency limit for the emissions of pentane at ≥95%:

During the inspection, staff observed the following:
Table with 3 columns: Process Description, Rule/Permit Condition Violated, Comments. Row 1: EU-Boiler7/8 Pentane Destruction for EU-CUP pentane expansion system, EU-CUP SC IV 1. R.336.1910, Stack test results show Destruction Efficiency to be below the 95% requirement.

Dart agrees that the permit requires that captured emissions are destroyed by an efficiency of ≥95%. However, Dart contends the test demonstrated that the pentane emissions captured from the pre-expansion system were being destroyed at a compliant percentage, as section 2.1 of the summary of the test report states that when both boilers are in modulation mode (the normal operating condition) the overall average DE (Destruction Efficiency) was greater than 95%.

Dart recognizes that the average DE at the *low firing rate* was below 95%. However, this situation is not a typical operating condition—generally, one boiler runs at high fire and the other in the middle range in modulating mode.

Dart recognizes that boiler #7 was not performing normally during the testing, so the DE of captured emissions sent to that boiler was below the 95%. However, the requirement of a pentane destruction efficiency of 95% or more is not boiler specific and is instead applicable to the pre-expansion system, as a whole. As evidenced by section 2.1 of the test summary, Dart's pre-expansion system did indeed meet the 95% pentane destruction efficiency requirement. As you are aware, boiler #7 failed shortly after testing was completed and was permanently removed from service on September 1, 2023. In normal operating conditions, prior to boiler #7 starting to fail, emissions are destroyed at a rate of greater than $\geq 95\%$.

From Impact Compliance and Testing's "AIR EMISSION TEST REPORT FOR THE VERIFICATION OF PENTANE CAPTURE AND DESTRUCTION EFFICIENCY FOR PRE-EXPANSION SYSTEM"; dated September 26, 2023; page 13, paragraphs 5 and 6:

- Special Condition No. IV.1 of MI-ROP-D8065-2020 specifies a minimum pentane destruction efficiency of 95% by weight for the pentane emissions captured from Pre-expansion System. The overall average DE during the operating scenario where both boilers were modulating was $\geq 95\%$, demonstrating compliance with this requirement for that operating scenario.
- Samples of the boiler exhaust gas were analyzed for methane content following the emission testing program. The boiler #7 modulating scenario had an elevated concentration of methane, such that, if it were subtracted from the measured pentane concentration the calculated destruction efficiency would have exceeded 95%. The Pentane Control System captured gas stream is not expected to contain any methane (i.e., the only potential hydrocarbon in that gas stream is pentane).

The above-described boiler #7 test results are not representative of normal or typical operations. Dart is confident it can demonstrate the boilers are performing at the required DE rates once its new boilers are installed and operational.

It should also be noted that the permit requires destruction of pentane at a rate of 95% or greater but the testing shows the results of "total VOC" destruction and would include any undestroyed methane. It is unlikely that the pentane (collected emissions) that are introduced as combustion air are passing through the boiler undestroyed. Instead, it is more likely that the increased VOC in the exhaust gases was due to a pinhole natural gas leak in the fuel feed system passing up the stack. For the next set of tests, if the overall VOC destruction is not shown to be above 95%, Dart proposes to run a gas chromatograph (GC) analysis to separate out pentane from other combustion emissions.

Given that testing demonstrated that Dart's pre-expansion system as a whole is compliant with destruction efficiency standards during normal operating conditions, combined with the fact that boiler #7 was starting to fail and has since been decommissioned, Dart requests this NOV be rescinded.

Further, a PTI application was submitted (11/2/2023) and reviewed and accepted by EGLE Permits on 11/7/2023 (APP-2023-280) for the installation of the replacement boilers. Upon the issuance of the PTI for these boilers and their subsequent installation, Dart will conduct the requisite emissions and destruction efficiency testing. We are confident that these replacement boilers will meet or exceed the required pentane destruction efficiency.

If you have any questions or concerns regarding anything in this letter or report, please contact me via email at Marc.Landry@dart.biz. Dart appreciates your attention to this matter.

Sincerely,



Mr. Marc Landry
Plant Manager – Mason Cup
Dart Container of Michigan, LLC

Cc: Mr. Robert Byrnes, MD EGLE AQD Lansing District Supervisor - via e-mail and hard copy
Dart Site Files