

SEP 26 2019



September 25, 2019

Mr. Daniel McGeen  
 Environmental Quality Analyst  
 Lansing District Office  
 Air Quality Division  
 525 West Allegan Street, 1st Floor South  
 Lansing, Michigan 48933

RE: Diamond Chrome Plating, Inc. Response to September 3, 2019 Violation Notice

Dear Mr. McGeen,

On behalf of Diamond Chrome Plating, Inc. (DCP), BB&E, Inc. (BB&E) is providing this letter in response to the items listed in the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) Violation Notice (VN) dated September 3, 2019. The alleged violations were received following EGLE AQD's review of the 2<sup>nd</sup> Quarter Halogenated Solvent Cleaner National Emission Standards for Hazardous Air Pollutants (NESHAP) Exceedance Report which was submitted to the AQD on July 31, 2019 by DCP.

**EGLE Observation 1**

**AQD Rule Violations – Comment 1:** Quarter 2 – 2019 Exceedance Report shows instances where freeboard refrigeration device (FRD) temperature limit in Subpart T was exceeded.

DCP's Bact-72A batch vapor degreaser, which uses the halogenated solvent trichloroethylene, is subject to the federal National Emissions Standards for Halogenated Solvent Cleaning.

Section 63.463(e)(2)(i) states:

(i) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall ensure that the chilled air blanket temperature (in °F), measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point.

In the 2<sup>nd</sup> Quarter 2019 Halogenated Solvent Cleaner NESHAP Exceedance Report submitted by DCP on July 31, 2019, DCP identified seven (7) temperature exceedances of the water jacket or FRD, for the BACT -72A, between May 1, 2019 and June 30, 2019.

AQD understands that DCP is using as a regulatory limit 30 percent of the boiling point of TCE. With a boiling point of 188.06 °F, the regulatory limit of 30% equates to 56.4 °F.



The above exceedances of the FRD temperature limit constitute a violation of Subpart T, Section 63.463(e)(2)(i).

**DCP Response 1:**

During review of FRD records, 7 readings were identified as being over 56.4 °F during the period specified above. The readings are listed below in chronological order:

- 1) 5/1/2019: 75.6 °F
- 2) 5/6/2019: 68.6 °F
- 3) 5/16/2019: 81.3 °F
- 4) 5/24/2019: 67.7 °F
- 5) 5/31/2019: 70.2 °F
- 6) 6/21/2019: 77.2 °F
- 7) 6/28/2019: 84.5 °F

As indicated in the 2<sup>nd</sup> Quarter 2019 Halogenated Solvent Cleaner NESHAP Exceedance Report, several actions were taken to address the temperature exceedances. DCP Maintenance Department personnel inspected the BACT-72A vapor degreaser and adjusted the water jacket temperature to consistently remain within the desired temperature range of 30°F to 40°F. The temperature probe used to measure the FRD temperature was also evaluated for accuracy; additionally, DCP worked with the manufacturer of the FRD temperature probe to determine whether a new temperature probe was necessary.

GEO-Corp, the manufacturer of the FRD temperature probe, was contracted to help evaluate the temperature probe; GEO-Corp concluded that the temperature probe was certified and is operating properly. Therefore, DCP did not purchase a new temperature probe.

Following evaluation of the temperature probe, DCP held numerous internal meetings for identifying possible next steps for further evaluating and correcting the temperature exceedances, which are detailed below.

On September 18, 2019, Vapor Engineering (manufacturer of the degreaser) was contacted by DCP; DCP expressed the issues with the machine and conveyed the information to the company regarding the temperature probe, and the determination by GEO-Corp that it is operating properly. Vapor Engineering provided DCP with a few recommendations, which are discussed further below, and also indicated that DCP should adjust the manner in which it measures temperature to ensure a more accurate reading. As noted above by EGLE AQD above, Section 63.463-(e)(2)(i) states that if a freeboard refrigeration device is used to comply with these standards, the owner or operator shall ensure that the chilled air blanket temperature (in °F),

measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point. The technical representative from Vapor Engineering indicated that their understanding of “measured at the center of the air blanket” means near the outside wall and halfway (vertically) through the freeboard zone. DCP’s current way of testing is in the center of the freeboard, both vertically and horizontally. According to Vapor Engineering, based on how DCP is currently measuring temperatures for the degreaser, the measurements may produce incorrect (high) readings. Therefore, Vapor Engineering recommended that DCP collect the temperature measurements near the outside wall and halfway (vertically) through the freeboard zone.

BB&E, on behalf of DCP, contacted Mr. Dan McGeen, EGLE AQD on September 20, 2019 to verify the information provided by Vapor Engineering. Mr. Dan McGeen indicated that he would have to follow-up with a different point-of-contact for verifying the correct measurement location; DCP has not heard back regarding this matter. In the meantime, DCP will continue to collect measurements at the center of the freeboard, both vertically and horizontally.

The second recommendation from Vapor Engineering was in regard to how high the “thermo bulb” is placed in the unit. The technical representative from Vapor Engineering believes that the sensor associated with the “thermo bulb” is placed too high, and would subsequently result in the vapor line being higher than desired; this could potentially allow TCE to come in contact with seals, that would not otherwise occur during normal operation of the unit. This may result in elevated temperatures as the heaters would stay on longer than necessary. DCP is currently working on the set point sensor for the “thermo bulb” to control how high the vapor line is rising. To do this, DCP adjusted the set point of the “thermo bulb” from the original starting point of 185, down to 140 in small increments. DCP also rewired the unit to switch the controls of the two bulbs such that the “thermo bulb” takes a reading from below the cooling zone. DCP immediately observed lower temperatures once this was completed. DCP plans to continue to lower the cooling zone temperature to assist in lowering the FRD temperature.

The third recommendation from Vapor Engineering was to evaluate the use of the idling mode heaters as they may be creating unnecessary heat, resulting in increased FRD temperatures. On September 20, 2019, DCP unwired several of the idling mode heaters. It was observed by DCP that the degreaser unit continued holding temperature while the idling mode heaters were not in use, which indicates that the heaters may be oversized for the unit. If the unnecessary idling mode heaters can remain disabled, the freeboard temperature should remain lower.

DCP is continuing to monitor the results from implementing the above recommendations and looks forward to hearing from EGLE regarding the FRD temperature measurement location. DCP will continue to consult with the manufacturer of the degreaser (Vapor Engineering), as needed, to achieve the required FRD temperature (less than 56.4 °F).

DCP and BB&E appreciate the Department's willingness to work with us on addressing and correcting this matter. If you have any questions regarding this information or wish to discuss any of our responses further, please do not hesitate to contact me.

Sincerely,

BB&E, Inc.



Celeste M. Holtz  
Project Manager

Cc

Mr. Todd Fracassi, Pepper Hamilton (electronic)  
Mr. James Colmer, BB&E, Inc. (electronic)  
Mr. Scott Wright, Diamond Chrome Plating, Inc. (electronic)  
Ms. Jenine Camilleri, EGLE (electronic)  
Mr. Brian Negele, DAG (electronic)  
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