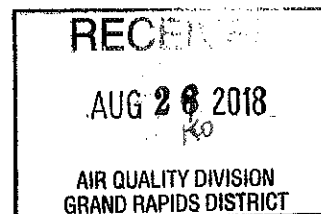




August 29, 2018
Project No. 180135

Mr. Eric Grinstern
Environmental Quality Analyst
Grand Rapids District Office
Air Quality Division
Michigan Department of Environmental Quality
350 Ottawa Avenue, Unit 10
Grand Rapids, MI 49503-2341



Re: Response to Violation Notice, dated August 2, 2018
Dicastal North America, Inc (SRN: N7688)
Greenville, Michigan

Dear Mr. Grinstern:

Dicastal North America, Inc. (Dicastal) has prepared this letter in response to the MDEQ Violation Notice (VN) dated August 2, 2018. The VN indicates that Dicastal violated the following special conditions (SC) related to permit to install (PTI) 78-15D for emission unit EU-ChipDryer:

| Process Description | Rule/Permit Condition Violated | Comments |
|---------------------------------------|--|--|
| Aluminum Chip Dryer (EU-ChipDryer) | PTI No. 78-150, EU-ChipDryer, Special Conditions 1.1, 1.2 and 1.3 | Exceedance of the pound per hour limit for PM, PM ₁₀ , and PM _{2.5} . |
| | PTI No. 78-15D, EU-ChipDryer, Special Condition IV.4 | Failure to maintain a minimum thermal oxidizer VOC destruction efficiency of 95%. |
| | PTI No. 78-15D, EU-ChipDryer, Special Condition III.2; 40 CFR 63.1506(f) | Failure to maintain a minimum thermal oxidizer 3-hour block average temperature above 725 degrees Celsius. |
| | PTI No. 78-15D, EU-ChipDryer, Special Condition IV.2; 40 CFR 63.1510(d) | Failure to inspect each capture and collection system at least once each year. |

As requested, this letter provides information regarding the referenced citations, including:

- the date the alleged violations occurred
- an explanation of the causes and duration of the alleged violation
- whether the violation is ongoing
- a summary of the actions that have been taken, and/or are proposed to be taken, to correct the violation, if any
- the date(s) by which these actions will take place
- what steps are being taken to prevent a reoccurrence.

Exceedance of the pound per hour limit for PM, PM₁₀, and PM_{2.5}.

On May 8 and 9, 2018, pursuant to PTI SC V.1, Dicastal conducted PM, PM₁₀, and PM_{2.5}¹ stack testing on the aluminum chip dryer (EU-ChipDryer). The results of the May 2018 stack test indicated that the particulate emission rates from the thermal chip dryer exceed the pound per hour (lb/hr) permitted limits. Prior to conducting the stack test, Dicastal met with the MDEQ-AQD to inform them that it was likely that the stack test would indicate that emissions from the thermal chip dryer would be in excess of the applicable permit limits. This was based on the observations made during previous dioxin/furan testing and an engineering study performed by the facility.

Although particulate emissions from the thermal chip dryer have exceeded permit limits, emissions from the facility remain less than the Title V *major source* thresholds of 100 tons per year (tpy). In addition, Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) ran the AERMOD dispersion model for PM₁₀ and PM_{2.5} emissions using the emission rates from the May 2018 stack test. The model results indicated ambient impacts for the facility, along with those from applicable nearby sources, will continue to meet the National Ambient Air Quality Standards.

Dicastal has worked with Pyrotek®, the manufacturer of the equipment, in an effort to determine why the particulate loading from the thermal chip dryer is higher than the emission rates estimated prior to installation and formulate a plan to correct the issue. While some adjustments have been made to the dryer and feed system, Dicastal has been unable to determine a corrective action to reduce the particulate emissions from the thermal chip dryer below permit limits as currently configured. Therefore, Dicastal is proposing to install a baghouse on the thermal chip dryer to correct this violation.

Dicastal is in the process of reviewing quotes from several baghouse suppliers. It should be noted that installation of a baghouse requires an extensive engineering study, due to exhaust temperatures, moisture content, location, and combustible dust protection. Dicastal plans to select the supplier by September 28, 2018. Once the specifications for the new baghouse have been determined, Dicastal will submit an application to modify PTI 78-15D, by October 30, 2018. Installation timing for the baghouse will be determined once a vendor has been selected.

Failure to maintain a minimum thermal oxidizer VOC destruction efficiency of 95 percent.

On May 8 and 9, 2018, pursuant to PTI SC V.1, Dicastal conducted VOC destruction efficiency testing on the aluminum chip dryer (EU-ChipDryer). The results of the May 2018 destruction efficiency test indicated that the VOC destruction efficiency from the thermal chip dryer was 25%, due to the very low VOC inlet loading to the thermal oxidizer. Because the inlet VOC concentration is so low, the thermal oxidizer is unable to maintain a destruction efficiency of 95%.

As described in the test report, the thermal chip dryer uses a thermal oxidizer to control VOC emissions from the oil/water emulsion being removed (volatilizing) off the chips in chip dryer. Prior to the chips entering the thermal chip dryer, Dicastal uses a machining fluid removal unit consisting of a spinner, which uses centrifugal force to mechanically remove excess emulsion fluid from the chips. The low VOC inlet to the thermal chip dryer's thermal oxidizer is likely attributable to the removal of the majority of the oil/water emulsion by the machining fluid removal unit, as well as the low VOC content of the coolant used in the machining area.

¹ PM particulate matter

PM₁₀ and PM_{2.5} fine particulate matter less than 10 microns or 2.5 microns, respectively

Mr. Eric Grinstern
Page 3
August 29, 2018

The permitted VOC emissions from the thermal chip dryer were based on the Subpart RRR total hydrocarbon (THC) limit for thermal chip dryers at a major source, multiplied by a safety factor of 2; plus VOC emissions from combustion of natural gas, which is approximately 5.4 lb/hr and 17.1 tpy of VOC post control. From the stack test, the inlet VOC mass flow rate was only 0.20 lb/hr. Based on the inlet VOC emissions, total uncontrolled VOC emissions from the thermal chip dryer are only: $0.2 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 0.88 \text{ tpy}$. Because uncontrolled emissions are well under the permitted controlled emission rate, Dicastal does not believe the thermal oxidizer is needed.

At this time, Dicastal is planning to remove the thermal oxidizer as part of the work associated with installing a new baghouse. The request to remove the thermal oxidizer will be included in the application to modify PTI 78-15D related to installation of the baghouse.

Failure to maintain a minimum thermal oxidizer 3- hour block average temperature above 725°C.

The thermal chip dryer process settings include an interlock which does not allow the chip dryer to begin to feed chips until the thermal oxidizer has met a minimum of temperature of 725°C. Unfortunately, the thermal chip dryer interlock programming did not include a tag to shut down the chip feed if the thermal oxidizer temperature fell below 725°C after the chip feed had been initiated. Dicastal requested that Pyrotek reprogram the interlock on the thermal chip dryer so that it will shut off the chip feed if the temperature falls below 730°C.

As discussed above, the uncontrolled VOC emissions are well below the PTI limit and the control of the thermal oxidizer is unnecessary. The long-term fix for this issue, is removal of the thermal oxidizer.

Failure to inspect each capture and collection system at least once each year.

Contracting the capture and collection system annual inspection was assigned to a process engineer who has since departed Dicastal. In addition, the facility has had some difficulty in finding a contractor in the area to perform the annual inspection. Dicastal is working to find a contractor and plans on having the inspection completed by October 31, 2018.

As the MDEQ is aware, Dicastal is a new facility and proper operation and maintenance of the thermal chip dryer has taken more time than anticipated. Dicastal is committed to working with the MDEQ to bring the thermal chip dryer back into compliance. If you have any questions or require additional information, please contact me at (616) 302-2994 or mjames@dicastalna.com.

Sincerely,



Dicastal North America Inc.

Michael James

Engineering Manager

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Mr. Eric Grinstern
Page 4
August 29, 2018

By email and USPS

cc/att: Ms. Jenine Camilleri – MDEQ
Ms. Heidi Hollenbach – MDEQ
Ms. Stephanie A. Jarrett, PE – FTCH
Mr. Steve Kohl - WNJ