MICHIGAN TURKEY

February 6, 2019

Mr. Adam Shaffer
MDEQ-AQD
Grand Rapids District Office
State Office Building
350 Ottawa Avenue, Unit #10
Grand Rapids, Michigan 49503-2341

Re: Response to Violation Notice Dated January 25, 2019
Michigan Turkey Producers (SRN: B8704)

Dear Mr. Shaffer:

This letter is in response to the Violation Notice (VN) dated January 25, 2019, and received by Michigan Turkey Producers (MTP) by email on January 29, 2019. The VN alleges several violations associated with Permit-to-Install (PTI) number 89-14 and Consent Order No. 59-2014. Per your request, this letter addresses these alleged violations, as well as addresses your inquiry of the tote cleaning operation you observed while on site on December 14, 2018.

The January 25, 2019 VN alleges the following:

1. Operating EUENGINE5 for more than 10 hours per day on April 20, 2017, April 21, 2017, and July 7, 2017 resulting in violations of EUENGINE5 S.C. III.2 and FGFACILITY S.C. III.1

2. Monthly and 12 month rolling emission totals for Carbon Monoxide (CO), Oxides of Nitrogen (NOx), and individual & aggregate Hazardous Air Pollutant (HAP) emissions were incomplete for at least January 2018 through October 2018, resulting in violations of FGFACILITY S.C. VI.4 and VI.5

Below are our responses to the above alleged violations:

1. Operating EUENGINE5 for more than 10 hours per day.

EUENGINE5 S.C. III.2 states:
The permittee shall not operate EUENGINE5 for more than 10 hours per day or more than 500 hours per year on a 12 month rolling time period basis as determined at the end of each calendar month.

This condition provides for alternate operating (A or B) scenarios:
a. The engine shall not operate more than 10 hours per day, or
b. The engine shall not operate more than 500 hours per 12 month rolling period.

The company agrees that on the dates listed above, Engine 5 operated more than 10 hours. In each case this occurred due to a power outage that affected the office area for which Engine 5 is the sole back-up service. However, the 12 month rolling total hours for Engine 5 at the end of April 2017 was 43.2 hours, and at the end of July 2017 was 56.6 hours, both of which are below 500 hours.

Since the permit condition allows for operating up to 10 hours per day or 500 hours per 12-month period, and since the 12 month rolling limit of 500 hours was not exceeded, we conclude that Michigan Turkey Producers was in continuous compliance with EUENGINE5 S.C. III.2.

FGFACILITY S.C. III.1 states:
The permittee shall not operate any engine in FGFACILITY for more than 10 hours per day or 500 hours per 12-month rolling time period as determined at the end of each calendar month.

Our response is the same as is described above for EUENGINE5 S.C. III.2. Since the permit condition allows for operating up to 10 hours per day or 500 hours per 12-month period, and since the 12 month rolling limit of 500 hours was not exceeded, we conclude that Michigan Turkey Producers was in continuous compliance with FGFACILITY S.C. III.1.

2. Monthly and 12-month rolling emission records were incomplete.

FGFACILITY S.C. VI.4 states:
The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NOx and CO emission calculation records for FGFACILITY, as required by S.C. I.1 and S.C. I.2.

Monthly NOx and CO emissions are calculated based on the combustion of natural gas in the five emergency generating engines and combustion of natural gas from all other non-engine sources site wide. The process involves:

a. Calculating monthly natural gas usage for each of the five engines based on recorded monthly hours of operation for each engine, their respective heat input ratings, and the higher heating value for natural gas.
b. Calculating monthly NOx and CO emissions based on the respective AP-42 emission factors for engines 1 through 5, and manufacturer's emission factors for engine 5.
c. Monthly NOx and CO emissions from all other sources are then calculated by:
    i. Subtracting the monthly natural gas usage by the five engines from the facility wide monthly natural gas usage, as determined by the gas meter readings.
    ii. NOx and CO emissions are calculated based on AP-42 emission factors.
d. The spreadsheet's 12 Month summary table maintains historical data from previous months allowing for the calculation of 12 month rolling totals for NOx and CO at the end of each month.

The 2018 spreadsheet that was initially submitted to you for review on December 17, 2018 contained accurate and complete monthly calculations of NOx and CO for the months of January through October. At the time of its submission to you, the November and December data had not yet been entered and was not due to be entered until no later than December 31, 2018 for the month

of November and no later than January 31, 2019 for the month of December. When reviewing these worksheets what would have been observed are negative emissions for NOx and CO for November and December. This is because these natural gas usages had not yet been entered.

Also, this spreadsheet did not include the historical data for 2015, 2016, and 2017. Under the 12 Month Total worksheet, the monthly cells listed for 2015 were incorrectly drawing data from the monthly worksheets for 2018. As a result, the 12 month calculations for NOx and CO had been miscalculated. It is unclear how these cells had become compromised, but they have now been fixed.

Revised electronic copies of 2017 and 2018 records were submitted to you by Ms. Christi Fox on December 19, 2018 with the 12 Month Total worksheet updated to include historical data for 2015 through 2017 and correct 12 month rolling NOx and CO calculations. Later it was noted that while the revision of the 2018 spreadsheet correctly inserted the historical data for 2015 through 2017, when the update was completed the monthly natural gas meter readings were inadvertently omitted. That has now been corrected and with the electronic submission of this response letter, we are transmitting a revised electronic copy of the 2018 file (by e-mail). In summary, while the monthly records had been maintained, there were some inadvertent calculation errors in recent spreadsheets that have now been corrected.

FGFACILITY S.C. VI.5 states:
The permittee shall keep, in a satisfactory manner, individual and aggregate HAP emission calculations determining the cumulative emission rate of each and the annual emission rate of each, in tons per 12-month rolling time period, as determined at the end of each calendar month, as required by S.C. I.4 and S.C. I.5.

Our response is the same as is described above for FGFACILITY S.C. VI.4 since individual and aggregate HAP emission determinations are calculated in the same way as NOx and CO emissions, using the respective HAP emission factors from AP-42.

3. Tote Cleaning Process

In regard to the tote cleaning operation mentioned in the VN, during the processing of turkeys, raw meat is placed into totes for shipment to various departments for further processing. Once the totes have been emptied, they are taken to the tank wash room where they must be cleaned and sanitized before being used again. The following is the cleaning procedure.

1. Dump any residual contents from the tote, into a waste container.
2. Using water only, spray out the inside of the container and dump into the wash room floor drain.
3. Apply a foam of diluted cleaning solution into the tote
4. Scrub the tote
5. Drain the scrubbed cleaner into the wash room floor drain
6. Rinse the tote with water, and drain into the floor drain

The foam is comprised of a solution of 4 fl. oz. of cleaner per gallon of water and aspirated with air to create the foam. The cleaning solution is drawn from a 2-1/2 gallon jug containing the following mixture:

WC 342 Cleaner - 1-1/2 gallon
WC 150 Sanitizer – ½ gallon
WC 340 Cleaner – 1 quart
Water – 1 quart

The constituents of the two cleaners and the sanitizer include sodium hypochlorite (CAS 7681-52-9), sodium hydroxide (CAS 1310-73-2), sodium chloride (CAS 7647-14-5), potassium hydroxide (CAS 1310-58-3), 2-butoxyethanol (CAS 111-76-2), as well as various surfactants, sequestering agents, and alkalinity boosters. In the staff activity report you noted the presence of 2-butoxyethanol.

While 2-butoxyethanol would be considered a VOC, it has an extremely low vapor pressure (less than 0.9 mm Hg) and it is infinitely soluble in water. For comparison, water has a vapor pressure of approximately 17 mm Hg. Therefore the water will preferentially evaporate well before any of the 2-butoxyethanol.

The cleaning solution, as applied (4 fl. oz. cleaner per gallon of water), contains less than 0.05% by weight 2-butoxyethanol in a solution consisting of 99% by volume water. The result is that the 2-butoxyethanol, as well as the other constituents remain in the water solution and are rinsed down the drain as wastewater.

The January 25, 2019 VN requested that we include in the response either an applicable exemption for the process or a permit-to-install application. However, since there are no quantifiable VOC emissions from the tote cleaning, a Rule 201 permit requirement is not triggered and therefore an air permit application or an exemption evaluation is not required.

CONCLUSION

Based on the above discussion, we believe that we have addressed the concerns described in the VN. Michigan Turkey Producers has implemented procedures to ensure that the historical data is properly carried forward in current versions of the record keeping spreadsheet so that the 12 month rolling totals can again be properly calculated.

It may be appropriate to revise the wording of several special conditions of the current air permit. The toxics evaluation demonstrated that compliance with the toxic screening levels is assured when operating the three (3) largest engines simultaneously for not more than 10 hours per day. This is equivalent to 30 engine-hours.

Should the DEQ concur, Michigan Turkey would be willing to consider requesting that the air permit be revised to modify the engine operating hour limits.

In regard to the tote cleaning process, we believe that this process is not subject to Rule 201 and therefore an air permit application or an exemption evaluation should not be required.

Should you wish to further discuss any of the above, we would be willing to meet with you at your earliest convenience.

Sincerely,
MICHIGAN TURKEY PRODUCERS

Mike Hart
Vice President of Engineering and Maintenance

cc: Ms. Mary Ann Dolehanty, DEQ-AQD
Dr. Eduardo Olaguer, DEQ-AQD
Mr. Christopher Ethridge, DEQ-AQD
Ms. Jenine Camilleri, DEQ-AQD
Ms. Heidi Hollenbach, DEQ-AQD
Mr. Bruce Connell, Environmental Partners, Inc.