

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

B709026518

FACILITY: MICHIGAN MILK PRODUCERS ASSOCIATION		SRN / ID: B7090
LOCATION: 431 W WILLIAMS ST, OVID		DISTRICT: Lansing
CITY: OVID		COUNTY: CLINTON
CONTACT: Gasper Calandrino, Plant Engineer		ACTIVITY DATE: 08/08/2014
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, semi-unannounced compliance inspection.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow (author) and Renee Denison (AQD Central staff)
 Personnel Present: Gasper Calandrino (gcalandrino@msn.com), Manager of Engineering and Maintenance
 Ryon Shaw, Project Engineer

Purpose: Conduct a semi-unannounced (24-hour notice), scheduled, partial compliance evaluation (PCE) inspection by determining compliance with Michigan Milk Producers Association's (MMPA) Opt-Out Permit No. 88-09A. This inspection was done as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview: MMPA is a co-op owned by farmers that produces butter, and condensed and evaporated milk in bulk quantities from excess milk supplies. One of MMPA's customer's is Edy's ice cream who purchases the condensed milk. R. Shaw said MMPA processes about 5 million pounds of milk per day. During the holidays, such as 4th of July and Christmas (when the milk plants shut down), MMPA is much busier because there is a greater amount of excess milk to be processed.

MMPA is an opt-out facility. According to the permit, MMPA is opting out of major source status for greenhouse gases, NOx and PM.

Inspection: At approximately 8:00 a.m. on August 7, 2014, Renee Denison and I arrived at MMPA and met with Rebecca Wolfe, MMPA's Quality Assurance Manager. She was not able to give us a tour of the plant nor provide the necessary documents needed to determine compliance with the air use permit, and she told us that Gasper Calandrino was not at MMPA that day. She scheduled for G. Calandrino to be available the following day. On August 8, 2014, Renee Denison and I met with G. Calandrino and R. Shaw at 8:00 a.m. I gave G. Calandrino a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a May 2012 Permit to Install Exemptions Handbook.

EUBOILER4 & FGBOILERS (EUBOILERS1 and 2)

R. Shaw showed us the boiler room which houses boilers 1 – 4 (see attached photos, photos taken by M. Luplow), boiler 3 being exempt because it is rated at less than 50 MMBTU/hr and would be exempt per Rule 282(b)(i), according to Brian Culham's inspection report in 2011. During the inspection, boilers 3 and 4 were online, boiler 1 was on "setback" and boiler 2 was down. G. Calandrino explained that MMPA typically is running 2 boilers at once and keeps another boiler "warm" on standby in case one of the operating engines needs to be shut down. EUBOILER 1, 2 and 4 are all required to burn only natural gas; MMPA is in compliance with this natural gas requirement (FGBOILERS has stack and material restrictions only). R. Shaw said that the boilers are used to produce heat for heating and evaporating the milk.

	Current Flow rate (SCFH)	Hours of Operation (since previous day)
EUBOILER1	NA	1.1
EUBOILER2	NA	0
EUBOILER3	14,796	24
EUBOILER4	8,097	23.99

III. Process/Operational Restrictions

MMPA is required to have a malfunction abatement plan (MAP) that is implemented and maintained. All units requiring a MAP (EUBOILER4, EUMILKDRYER3, FGMILKDRYERS) have the following minimum requirements that must be met:

1. Supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspection or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
2. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

3. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

MMPA submitted MAPs to the Lansing District for the 3 emission units in November of 2009. I reviewed MMPA's MAP for EUBoiler4, which meets all 3 of these criteria. MMPA is in compliance with all Process/Operational Restrictions at this time.

VI. Monitoring/Recordkeeping

MMPA is required to monitor and record the monthly fuel use (natural gas) for EUBOILER4. G. Calandrino provided me with the "Usage and Operating Hours Tracking" spreadsheet that contains fuel usage and operating hours for all permitted processes, and was developed by their consultant, Dan Kakkuri (see attached). Records for fuel use are required to be recorded in order to calculate NOx emissions from the unit as a compliance check with FGFACILITY requirements.

There is also a requirement that MMPA monitor emissions, operating information, and keep records for EUBOILER4 in accordance with NSPS Subparts A and Dc. Although MMPA meets the definition of "affected facility" in Subpart Dc, it appears the standards within the subpart refer only to boilers which burn coal or mixtures of coal with other fuels. The only applicable requirement from this subpart is to maintain records of the amount of each fuel (natural gas) combusted during each calendar month, which MMPA is doing for all boilers. MMPA is in compliance with the Monitoring and Recordkeeping requirements for EUBOILER4.

EUMILKDRYER3 ("Tower Dryer")

The tower dryer dries milk and exhausts particulate to two cyclone collectors with 2 associated baghouses. Condensed milk (50% solids/50% water) is sprayed into the dryer, which is kept at 375°F. Particulate moves from the dryers into the cyclones. I took photos of the cyclones themselves (see attached); R. Denison took photos of the pressure drops for both baghouses (see attached photos). R. Shaw explained that most (95%) of the particulate is captured in MMPA's "vibro-fluid bed" (which helps dry the milk further before sending it to storage). From there, 5% of the remaining particulate is captured in the cyclones and the remaining fines (<1%) are captured in the baghouses.

I. Emission Limits

Visible emissions from the dryer are restricted to 10% opacity per 6-minute average. I saw no signs of opacity during the inspection. MMPA is in compliance with this condition.

III. Process/Operational Restrictions

MMPA is required to have a malfunction abatement plan (MAP) that is implemented and maintained. The plan requirements are discussed in "EUBOILER4 & FGBOILERS."

I reviewed MMPA's MAP for EUMILKDRYER3, which meets all 3 of these criteria. MMPA is in compliance with all Process/Operational Restrictions at this time.

IV. Design/Equipment Parameters

MMPA is required to maintain and operate the 2 cyclones and 2 baghouses in a satisfactory manner. G. Calandrino explained the following:

"The pressure drops on the Bag Houses normally run between 3 and 5 inches of H₂O column 9 (WC). A drop in pressure, obviously, would indicate that a leak was developing. A differential pressure of 2 WC would trigger alarm. We have not experienced a drop in pressure, because we schedule sock/filter change outs once a year; usually in the month of November or early December. Our first runs with the dryer indicated that filters could be expected to last a minimum of 18 months. Because the filter change out typically takes 3 - 4 days, we decided to make the changes at 12 month intervals. This puts the needed downtime at a time of the year when we are typically drying less product and avoids any worry of filter degradation. Beyond this, the stack is visually checked each day for any signs of particulate emission."

MMPA is in compliance with this condition.

VI. Monitoring/Recordkeeping

MMPA is required to continuously monitor and keep a daily record of the pressure drop for the 2 baghouses. G. Calandrino provided me with a daily record sheet for 8/2/14. See attached. The highlighted 2 orange rows represent the recorded pressure drops. Based on MMPA's pressure drop operating range of 3 - 5" H₂O, they are properly operating the baghouses. G. Calandrino said that the pressure drop is recorded every 2 hours during times when the dryers are being operated. MMPA is in compliance with this condition.

VIII. Stack/Vent Restrictions

The permit requires that the stack discharge exhaust gases unobstructed vertically upwards. R. Shaw said that the stack has double doors that close when the dryer isn't running to keep animals and water out. Otherwise, the doors are open to allow for unobstruction. MMPA is in compliance with this condition.

FGMILKDRYERS (EUMILKDRYER1 and 2)

MMPA refers to EUMILKDRYER1 and 2 as the "box dryers." You must wear required MMPA hairnets and overcoat to inspect

these pieces of equipment. These units were not operating during the inspection and G. Calandrino said these are not used as much as the tower dryer. R. Shaw said that the shaker arms (MMPA refers to this as the "spider compartment") shake the particulate to the floor of the baghouse (the floor of the baghouse is a large chamber that collects the particulate) where personnel will sweep up and remove whatever is collected. From the chamber, the exhaust air exits the facility through a stack. A photograph of one of the bag compartments is attached.

I. Emission Limits

Opacity from FGMILKDRYERS shall not exceed 10% during a 6-minute average. I saw no signs of opacity while onsite. MMPA is in compliance with this condition.

III. Process/Operational Restrictions

MMPA is required to have a MAP, as detailed under "EUBOILER4 and FGBOILERS." I reviewed MMPA's MAP for FGMILKDRYERS, which meets all 3 criteria. MMPA is in compliance with all Process/Operational Restrictions at this time.

IV. Design/Equipment Parameters

Fabric filters are required to be installed, maintained and operated in a satisfactory manner. R. Shaw took us to the units and showed us a baghouse chamber. He said there are 10 chambers per dryer. The bags in the baghouse appeared to be installed and maintained properly: from as far in as I could see, the bottoms of the bags were securely fitted and there were no rips or tears in the bags. R. Shaw said that if they notice particulate in the shaker arms, they know they have a problem with the system. They check the shaker arms before every start up. MMPA is in compliance with the Design/Equipment Parameters.

Although not required, MMPA keeps daily box dryer inspection logs (see attached). This includes Daily Air Emissions Observations, also attached, that record the baghouse pressure drops, the last time the shaker arms (spider) were last inspected, and recorded observations of the condition of the spider and bags in the baghouse.

FGGENERATORS (EUGENERATOR1, 2, 3)

R. Shaw said that these units are "exercised" for approximately 15 minutes every Tuesday and are only used as backup emergency generators. He said that these have only been used once this year: the energy company had to shut down their substation for approximately 5 hours. R. Shaw said that the longest period of time the engines had to be run was 16 hours. R. Shaw said each engine is 12 cylinders, 4000 HP, and 2 MW. MMPA is only allowed to install 2 MW engines, and is therefore in compliance with this condition.

II. Material Limits

The generators are only allowed to burn diesel fuel and the diesel fuel sulfur content can be no more than 0.0015 percent by weight. While onsite, I took a photograph of the engines (see attached) and noted that the lines going into the engines were marked "DIESEL ONLY." R. Shaw also verified that these engines are only fired on Detroit diesel fuel. G. Calandrino provided me with documentation from the fuel oil supplier indicating that the fuel is ultra-low sulfur diesel fuel, rated at 15 ppm (see attached). MMPA is in compliance with these 2 requirements.

III. Process/Operational Restrictions

MMPA is required to operate the engines according to manufacturer's instructions. G. Calandrino said that up until recently, Cummins Bridgeway was contracted to service all 3 of MMPA's engines semi-annually (spring and fall). G. Calandrino provided me with an inspection checklist that Cummins uses to check and maintain the engines. MMPA plans to use W.W. Williams in the future for engine services.

The permit also requires that the maximum operating time for each generator not exceed 500 hours per 12-month rolling periods per generator. According to MMPA's "Permit Compliance Summary Worksheet" for August 2013 – July 2014, the operating hours for EUGENERATOR 1, 2 and 3 is 1, 29 and 35 respectively (see attachment). MMPA is in compliance with the operating hours restriction and recordkeeping requirement.

IV. Design/Equipment Parameters

The generators are required to be equipped with non-resettable hours meters. R. Shaw showed me all the hours meters and their non-resettable function:

Engine	Total hours of operation
1	194
2	132
3	157

MMPA is in compliance with the design/equipment parameters.

VI. Monitoring/Recordkeeping

Also included in the "Permit Compliance Summary Worksheet" is the 12-month rolling diesel use records for the 3 generators, required by permit. MMPA is in compliance with this condition.

EUDRYERHEATER

EUDRYERHEATER, according to R. Shaw, is a non-contact dryer/heat exchanger that is fired by natural gas. The permit requires that this only be fired by natural gas. MMPA is in compliance with this requirement for EUDRYERHEATER at this time.

FGFACILITY

FGFACILITY takes into account all emissions sources and restricts PM, NO_x and Greenhouse Gas emissions.

II. Material Limits

MMPA is restricted to 1,423 MMCF of natural gas per 12-month rolling time period. G. Calandrino records the natural gas usage on the "Usage and Operating Hours Tracking" spreadsheet. The rolling total for 12 months for all combined emission units' (EUBOILER1, EUBOILER2, EUBOILER3, EUBOILER4, EUMILKDRYER1, EUMILKDRYER2, EUDRYERHEATER) natural gas usage is 463 MMCF. (see attached spreadsheet)

VI. Monitoring/Recordkeeping

G. Calandrino also records the PM, NO_x, and GHG monthly emissions, which are converted to 12-month rolling totals. I asked for records spanning the August 2013 – July 2014 12-month rolling cycle. The facility-wide NO_x emissions were approximately 19 tons for the 12-month rolling cycle. MMPA has a facility-wide limit of 89 tons of NO_x per rolling 12-months. The facility-wide PM emissions were approximately 32 tons for the 12-month rolling cycle; the permitted limit is 89 tons of PM per rolling 12-months. (see "Permit Compliance Summary Worksheet") MMPA is in compliance with both recordkeeping and emission limits for facility-wide NO_x and PM at this time.

MMPA is also required to keep monthly and 12-month rolling GHG emission calculation records and emit no more than 89,900 tons of CO₂e per 12-month rolling time period. August 2013 – July 2014 GHG emissions were reported at 27,983 tons. MMPA is in compliance with this emission limit

MMPA is required to keep a current listing of the chemical compositions of all cleaning solutions used including the weight percent of each component. G. Calandrino said they use 3 different cleaners (a caustic wash, an acid wash, and a sanitizer) to clean the 3 dryers and provided me with each MSDS (see attached). These cleaners contain no HAPs or VOCs and G. Calandrino said that they use less than 5 gallons per unit for each cleaning job, which occurs once per month on the tower dryer.

Inspector's Safety and Health: You will be required to wear a hairnet and disposable "overcoat" if you want to view the FGMILKDRYERS, EUMILKDRYER3, or EUDRYERHEATER. You will also be required to sanitize your boots at their sanitary spray station and wash your hands. Hard hats, safety glasses and hearing protection are essential in most places of the plant.

Compliance statement: MMPA is in compliance with all state and federal regulations at this time.

NAME Micella M. Lepore

DATE 9-3-14

SUPERVISOR M. M. M.