

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

P051625378

FACILITY: Bell's Brewery		SRN / ID: P0516
LOCATION: 8938 Krum Ave., GALESBURG		DISTRICT: Kalamazoo
CITY: GALESBURG		COUNTY: KALAMAZOO
CONTACT: Walker Modic, Sustainability Specialist		ACTIVITY DATE: 06/03/2014
STAFF: Dorothy Bohn	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: unannounced, 1st inspection of facility		
RESOLVED COMPLAINTS:		

This was an unannounced, 1st time inspection of this facility. I arrived at 2 pm and left at about 5:10. Walker Modic, Sustainability Specialist, assisted with the inspection. Gary Courier, Health & Safety, would have also been a contact but he was out of the office. Between the 2 of them they handle the environmental aspects of the facility. I gave Walker an inspection brochure.

The facility began at this location in 2001 or early 2002 with a 50 barrel brewhouse. This part of the facility has stacks out the roof but it is all wort (sugar water) at this point and the stacks are only emitting steam. D cellar was added in 2008 and has thirty-six 400 barrel tanks. The brewhouse was expanded in 2011 adding equipment to produce another 200 barrels. This spring they finished installing E cellar and the canning line which started up around mid-May. E cellar has twelve 800 barrel tanks with space for 12 more.

They are in the process of constructing the WWTP which will include an anaerobic digester and engine to generate electricity for the facility. Walker says this should be complete this October. The company has reported that the engine will be exempt from a PTI by Rule 285(g) and they are aware of the NSPS and MACT. 103 people now work at this facility. In 2013 they produced about 270 barrels of beer. That was an increase of about 22% from 2012's production and they anticipate about a 20% increase over 2013 for 2014.

Grainhandling: Grain comes in in bulk and moves via augers that are completely enclosed. With the original brewhouse the grain was delivered in bulksacks. Since 2011 there are also silos. All vents have filters on them. The grainhandling equipment is exempt via Rule 284(k), Rule 285(p) & (dd).

Brewhouse: Malt comes in whole and is wet milled by misting it with water to control dust and collect more of the material for use. Various vats are used to make the wort as efficiently as possible. The process installed in 2011 is all closed loop so that excess steam and heat is reused in the process. The old brewhouse has stacks that vent primarily steam.

Uni -tanks are used for fermenting and conditioning. There are also closed loop. They are jacketed with polypropylene glycol for cooling. There is a separate small room with a centrifuge to remove excess hops.

The cellar tanks are mainly stainless steel but there are some wooden barrels. The tanks have a passive pressure relief system which vents inside the building. It is to relieve excess CO2 buildup from the yeast and vents into a tank in case some of the yeast burps out with the CO2.

Spent grain and yeast is picked up by a farmer that uses it for feed. About 1400-1600 yd³ per week is generated.

Packaging: They collect the used kegs then clean and refill them all on the same line. A videojet prints information on each keg using Videojet ink 16-8200Q and make-up fluid (MUF) 16-8205Q. Each keg is ½ a barrel. Canning has 2 videojet printers that use Videojet ink 16-8420Q and MUF 16-8425Q. Some cans are sold separately and some are boxed with 4 to a box. They print on the cans and the boxes. Hotmelt is applied to seal the boxes. Brew Glue is used to apply labels to bottles as they are filled. The bottles are not printed. Packaging loss is determined by tracking both the total production loss and packages destroyed.

The hotmelt glue is exempt per Rule 287(i). The SDS information for Brew Glue was submitted in an email on 6/4 (attached). It shows that there is no VOC in the glue so it does not fall under Rule 201. The videojet ink for cans is 83% VOC by wt and contains no HAP. The MUF is 100% VOC by wt and contains 1-3% HAP (methanol). The videojet ink for the kegs shows 69% VOC by wt with 25-35% methanol (HAP) and 1-3% CAS #548-62-9 (HAP). The MUF for this is 99%VOC by wt with 40-50% methanol (HAP). In 2013 they bought a total of 43.5 gallons of ink and MUF. This can qualify for Rule 287(c) exemption but they will need to track the use.

CIP (Clean in place) at the facility uses water, caustic (One Way 5247) and sometimes steam. It is computerized. No VOCs are used.

Cold Cleaner: There is a Safety Kleen (SK) unit in maintenance. The stickers on it said that Premium Gold solvent is used. Walker later confirmed that it is Premium Gold. The lid was closed and it was posted by SK.

Boilers: The facility has 2 boilers, both gas fired. The small one was installed with the original brewhouse. It is a Cleaver Brooks model CB700-150, installed in 11/11/94 and is 6.28 MMBtu/hr. Walker said this is still usable but is not used. The "large" boiler is also a Cleaver Brooks model CBEX-E-700-400-150. The plate said it was installed in 2012 and is 6.329 MMBtu/hr. It also says that has NOx emission level of 60 ppm. An initial notification for NSPS 60 Dc was submitted in September 2011. The only requirement in the NSPS is to keep monthly records of fuel use. The boilers are PTI exempt per Rule 282(b).

Diesel Emergency Generator: This is a Mtu Onsite Energy Engine, model DS00600D6SRAH1484. The engine is MTU 12V1600G805 and it is 600 KW. It is subject to NSPS JJJJ and MACT ZZZZ. The facility is an area source of HAP. The generator is exempt from PTI by Rule 285(g). (600Kw => 804 hp => 6.2 MMBtu/hr)

Brewhouse records: Walker submitted Rule 290 records in an email on 6/9/14 (see attached emails). The maximum VOC emissions from making & packaging the beer was: 388# in 2010, 617# in 2011, 534# in 2012, 713# in 2013, and 913# so far in 2014. This is getting close to the 1000# limits. Emissions for chemicals allowed only 20# is less than 0.1# in any month. The biggest source of emissions is packaging (this doesn't include the printing which is under a Rule 287 exemption).

For now the company appears to be in-compliance. They will need to evaluate how they will stay in-compliance with their projected growth. Walker said they are currently operating at about 65% of their potential. If they added/included the tanks they made room for as they plan to around 2017 they would now be at about 50% of their potential.

NAME Dorothea Bohn

DATE 6/11/14

SUPERVISOR UA 6/11/2014