

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

N170571498

FACILITY: Acument Global Technologies, Baldwin Operations		SRN / ID: N1705
LOCATION: 4146 E BALDWIN RD, HOLLY		DISTRICT: Lansing
CITY: HOLLY		COUNTY: GENESEE
CONTACT: Bobby Sherfy , EHS Coordinator (Baldwin Operations)		ACTIVITY DATE: 04/11/2024
STAFF: Daniel McGeen	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection of facility last inspected in 2018.		
RESOLVED COMPLAINTS:		

On April 11, 2024, the Michigan Department of Environment, Great Lakes, and Environment (EGLE), Air Quality Division (AQD) conducted an inspection of Acument Global Technologies, Baldwin Road Operations.

Facility description:

This facility manufactures metal bolts, and this process includes two steel hardening lines.

Environmental contact:

Bobby Sherfy, EHS Coordinator (Baldwin Operations); 810-953-4547; bsherfy@acument.com

EGLE, AQD contact:

Dan McGeen, inspector; 517-648-7547; mcgeend@michigan.gov

Emission units:

Emission Unit*ID	Emission Unit Description	Permit To Install (PTI) or Michigan Air Pollution Control (MAPC) Rule No.	Compliance Status
EU-Wastewater	Wastewater evaporation system with 1 MMBtu/hr burner.	PTI 1058-92A	Compliance
EU-Quench1	Heat treatment line including natural gas-fired hardening furnace, natural gas-fired tempering furnace, and quench oil bath. The 4,000 lb furnace, aka the "1244" furnace is believed to be EU-Quench1.	PTI 1058-92A	Compliance
EU-Quench2		PTI 1058-92A	Compliance

	Heat treatment line including natural gas-fired hardening furnace, natural gas-fired tempering furnace, and quench oil bath. The 3,000 lb furnace or “662” furnace is believed to be EU-Quench2.		
Parts washer (s)	Water-based parts washer.	MAPC Rules 281(2)(e), 281(2)(k), 285(2)(l)(iii), and/or 285(2)(r)(iv).	Compliance
Metal machining processes	Multiple metal machining processes which exhaust to the in-plant environment.	MAPC Rule 285(2)(l)(vi)(B)	Compliance

***An *emission unit* is any part of a stationary source that emits or has the potential to emit an air contaminant.**

Flexible Groups:

Flexible Group** ID	Emission Units Included In Flexible Group	PTI No.	Compliance Status
FG-Quench	EU-Quench1, EU-Quench2	PTI 1058-92A	Compliance

****A *flexible group* is used in a permit to install (PTI) or Renewable Operating Permit (ROP) to combine two or more emission units that have common or identical requirements.**

Regulatory overview:

This facility is considered a *minor source of criteria pollutants*, that is, those pollutants for which a National Ambient Air Quality Standard (NAAQS) exist. These include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns (PM10), and particulate matter smaller than 2.5 microns (PM2.5). A *major source* of criteria pollutants has the potential to emit (PTE) of 100 tons per year (TPY) or more of any one of the criteria pollutants and would be subject to the Renewable Operating Permit program.

This facility is also considered to be a minor or *area source* for hazardous air Pollutants (HAPs), because it has a PTE of less than 10 TPY for any single HAP and less than 25 TPY for all HAPs combined.

There are numerous metal machining processes in the plant, which exhaust to the general, in-plant atmosphere. Michigan Air Pollution Control (MAPC) Rule 285(2)(l)(vi)(B) and (C) exempt the following:

(l) The following equipment and any exhaust system or collector exclusively serving the equipment:

(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following:

(A) Equipment used on a nonproduction basis.

(B) Equipment that has emissions that are released only into the general in-plant environment. (Emphasis added.)

(C) Equipment that has externally vented emissions controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner. (Emphasis added.)

There are also one or more water-based parts washers which use soap. The following exemptions may each potentially apply:

- MAPC Rule 281(2)(e) exempts equipment used for washing or drying materials, where the material itself cannot become an air contaminant, if no volatile organic compounds that have a vapor pressure greater than 0.1 millimeter of mercury at standard conditions are used in the process and no oil or solid fuel is burned.
- MAPC Rule 281(2)(k) exempts aqueous based parts washers.
- MAPC Rule 285(2)(l)(iii) exempts the following equipment and any exhaust system or collector exclusively serving the equipment: Equipment for surface preparation of metals by use of aqueous solutions, except for acid solutions.
- MAPC Rule 285(2)(r)(iv) exempts equipment used for metal cleaning processes if the
- process emissions are only released into the general in-plant environment:

The federal regulation 40 CFR Part 63, Subpart JJJJJJ—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* was written for area sources of HAPs. There are no boilers onsite, only residential-size hot water heaters. To meet the definition of a hot water heater in this area source Generally Achievable Control Technology (GACT) standard, the units must be no more than 120 gallons in capacity. Pursuant to Section 63.11195(f), because the units here are believed to be below 120 gallons, they are considered exempt from Subpart JJJJJJ.

Fee status:

This facility is not considered fee-subject, because it is not a major source for either criteria pollutants or HAPs, and because it is not subject to either a federal new source performance standard or a federal national emission standard for hazardous air pollutants.

This facility is not required to submit an annual air emissions report to AQD because it does not meet the criteria for reporting of having more than 10 TPY VOC emissions, pursuant to AQD Operational Memorandum No. 13.

Location:

- Address: 4146 E. Baldwin Road, Holly, Genesee County, 48442
- Description: The facility is at the east end of an industrial area east of the intersection of Baldwin and Holly Roads. To the immediate north is a storage facility, to the northeast is an industry, while to the immediate south and west are other industries. Two houses are immediately east of the plant. A hospital is roughly 2,800 feet to the northwest.

Safety apparel required:

Safety glasses with side shields, hearing protection, and oil-resistant, enclosed, leather or leather-like shoes.

History:

This site has previously operated as Ring Screw Works, and as SEMCO Fastener Division.

Most recent inspection:

11/5/2018: Compliance.

Recent complaints (within last two years):

None.

Odor evaluation:

AQD conducted an odor evaluation before arrival.

- Start time of odor evaluation: 11:53 AM.
- Weather conditions: Light rain and 51 degrees F, with variable winds out of the NE at 10-15 mph.
- Route taken: Holly Road south to E. Baldwin Rd., and east to parking lot of industry to the northeast, then to entrance of business due north of plant, before going onsite.
- Odors detected offsite: None.

Arrival:

This was an unannounced inspection. AQD was represented by Dan McGeen, inspector.

- Arrival time: 11:57 AM.
- Weather conditions: Light rain and 51 degrees F, with wind shifting to out of E at 10-15 mph.
- Odors detected: Distinct and definite hot oil scent, briefly.
- Visible emissions detected: No opacity, only steam.

D. McGeen presented his credentials, per AQD procedures, upon arrival. He soon met with Bobby Sherfy, EHS Coordinator (Baldwin Operations).

Inspection:

The plant was operating at this time. There was no fog or haze of mist or smoke visible in the interior air. There were occasional oily odors indoors.

Metal machining processes; Rule 285(l)(vi)(B):

The bolt manufacturing process begins by running a coil of steel wire into a header machine that cuts the metal and forms into a blank. This is not a heated operation, but cutting oils are used and heat is generated during the forming operation. The facility has several header machines.

Following the forming process, the blanks are threaded in the roller area. These include completely enclosed machines that would not be expected to generate air emissions.

MAPC Rule 285(2)(l)(vi)(B) exempts metal working processes which exhaust to the general, in-plant environment. There were numerous metal working processes in the plant. No visible emissions could be detected.

OD/ID Grinders in the tool room are said to exhaust through a roof-mounted filter system atop the northwest corner of the plant which can be seen from ground level. The ductwork going vertically to the roof could be considered a form of gravity collector or mechanical collector. MAPC Rule 285(2)(l)(vi)(C) exempts metal working processes which have externally vented emissions controlled by a fabric filter collector that is preceded by a mechanical precleaner. AQD was advised that by year's end, these grinders and their control equipment will be relocated to a nearby Acument building, to the south.

FG-Quench; PTI No. 1058-92A:

Depending on the part that is made it may be heat treated in one of the two heat treat lines in the plant. Each line is covered by the same permit and is part of FG-Quench. The furnaces operate using natural gas.

The heat treatment process begins with a pre-wash hot water bath prior to the part entering the hardening furnace where parts are subjected to a temperature of approx. 1650 degrees. Parts are then quenched in an oil bath and rinsed in a water wash station. The quench oil liquid level is monitored and refilled as necessary from an oil storage tank. Records of oil removed and oil added to the quench tanks are maintained on site. Following the quench tank the part then enters a tempering furnace where the parts will be heated to approximately 1200 degrees F. The tempering process increases ductility and relieves internal stresses within the metal parts. A rust inhibitor is applied to the parts following the draw furnace. The finished parts are collected in bins and shipped to customers.

Quench oil is measured with a paddlewheel, and oil is added every 5-6 days. After parts are rinsed with water, a separator separates water from quench oil. The water goes to a holding tank for further settling. It is my understanding that oil is recovered for recycling or disposal, and a decanter separates out the sludge or sediment at the bottom.

Per request, B. Sherfy emailed to AQD an electronic copy of their recordkeeping for FG-Quench from 1/12/2023 through the present (please see attached).

EU-Wastewater, PTI No. 1058-92A:

There is a permitted Samsco water evaporator onsite, identified in the permit as EU-Wastewater. There were no fugitive emissions from the unit. B. Sherfy emailed a photo (attached) of the wastewater treatment flow diagram when he emailed the quench oil recordkeeping.

The water evaporator treats wastewater such as mop water from cleaning the plant floor with a detergent solution. Oil in the wastewater is reclaimed, and stored until it can be sent offsite.

Compliance check with PTI 1058-92A Special Conditions (SC):

PTI 1058-92A SC	Requirement	Comments	Complies?
EU- Wastewater, SC I.1	The VOC content of all cleaning agent used in EU-Wastewater shall not exceed 10 percent by weight.	They do not directly add soap to the Samsco water evaporator. Mop bucket water, from cleaning the general plant floor, is emptied into the water evaporator, but the soap only makes up 6-8% of the mop water. In the heat treat area, soap only makes up 4% of the bucket water. The mop wastewater is not expected to exceed 10% VOC by weight.	Yes
EU- Wastewater, SC I.2	The permittee shall not use more than 8400 gallons of cleaning agent in EU-Wastewater per 12-month rolling time period.	The highest volume per 12-month rolling time period was 4,400 gallons, as determined at the end of May 2023 and again in December 2023.	Yes
EU- Wastewater, SC I.3	The permittee shall keep the following information on a monthly and previous 12-month basis for EU-Wastewater:	The facility is meeting this requirement.	Yes
EU- Wastewater, SC I.3(a)	Gallons of cleaning agent used.	The facility is meeting this requirement. Please see attached records.	Yes
EU- Wastewater, SC I.3(b)	The VOC content, in percent by weight, of cleaning agent used.	The safety data sheet for the Purple Dragon cleaning solution was provided to AQD in 2018 and indicated zero or very little VOC content.	Yes
EU- Wastewater, SC I.4	The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air through a stack SV-Wastewater with: <ul style="list-style-type: none"> Maximum diameter: 18 inches. 	As measured by the company: <ul style="list-style-type: none"> Maximum diameter: 8 inches. Minimum height above ground level: 28.3 feet. 	Yes

	<ul style="list-style-type: none"> Minimum height above ground level: 21.5 feet. 		
FG-Quench, SC 2.1a	Particulate matter (PM) emissions from FG-Quench shall not exceed 8.7 TPY over a 12-month rolling time period as determined at the end of each calendar month.	The highest calculated 12-month rolling value for PM emissions was 10,529.30 lbs, or 5.26 tons, below the limit.	Yes
FG-Quench, SC 2.1b	PM emissions from FG-Quench shall not exceed 0.1 lb/1,000 lb exhaust gas over a time period as determined in a test protocol.	A stack test would be required to verify this, but noncompliance is not suspected.	Unknown
FG-Quench, SC 2.2	The permittee shall not use more than 2460 gallons of quench oil in FG-Quench per 12-month rolling time period, as determined at the end of each calendar month. The amount of quench oil used shall be determined on a "net usage" basis. "Net usage" is defined as the amount of quench oil added to FG-Quench to bring the quench oil levels up to starting levels less any amount of quench oil reclaimed or removed as waste.	1,483.0 gallons was the highest 12-month rolling value, at the end of January 2023.	Yes
FG-Quench, SC 2.3	The permittee shall keep the following information on a monthly and previous 12-month basis for FG-Quench:	The facility is meeting this requirement.	Yes
FG-Quench, SC 2.3(a)	The net usage, in gallons, of quench oil.	The facility is meeting this requirement.	Yes
FG-Quench, SC 2.3(b)	The particulate emission rate using a material balance.	The facility is meeting this requirement.	Yes
FG-Quench, SC 2.3(c)	The hours of operation.	<p>The facility is meeting this requirement.</p> <p>The format is acceptable, and records were made available</p>	Yes

	The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file for a period of at least five years and made available to the Department upon request.	upon request. Facility records go back to 2003, AQD has observed.	
FG-Quench, SC 2.4	The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air:	From ground level, stacks appeared to discharge unobstructed vertically upwards.	Yes
FG-Quench, SC 2.4a	Through stack SV-Quench1 with: <ul style="list-style-type: none"> • Maximum diameter: 6 inches. • Minimum height above ground level: 28 feet. 	Measurements by the company: <ul style="list-style-type: none"> • Diameter: 18 inches. • Height above ground level: 33 feet. 	No
FG-Quench, SC 2.4b	Through stack SV-Fumehood1 with: <ul style="list-style-type: none"> • Maximum diameter: 16 inches. • Minimum height above ground level: 29 feet. 	Measurements by the company: <ul style="list-style-type: none"> • Diameter: 16 inches. • Height above ground level: 31 feet. 	Yes
FG-Quench, SC 2.4c	Through stack SV-Quench2 with: <ul style="list-style-type: none"> • Maximum diameter: 6 inches. • Minimum height above ground level: 30 feet. 	Measurements by the company: <ul style="list-style-type: none"> • Diameter: 18 inches. • Height above ground level: 32 feet. 	No
FG-Quench, SC 2.4d	Through stack SV-Fumehood2 with: <ul style="list-style-type: none"> • Maximum diameter of 24 inches. • Minimum height above ground level: 25 feet. 	Measurements by the company: <ul style="list-style-type: none"> • Diameter: 20 inches. • Height above ground level: 28 feet. 	Yes

(End of PTI 1058-92A compliance check.)

Post-inspection follow up:

D. McGeen contacted B. Sherfy to check on stack heights versus the required minimum heights in PTI 1058-92A. On 4/25/2024, it was reported that the minimum stack heights above ground level were all

met, but the maximum allowed stack diameter of 6 inches for stacks SV-Quench1 and SV-Quench2 were exceeded, with both stacks measuring 18 inches in diameter. A Violation Notice (VN) will be sent.

Compliance concerns:

- Stack SV-Quench1, as measured by the company, was 18 inches in diameter, above the maximum allowed 6 inches in diameter set under PTI 1058-92A, FG-Quench, SC 2.4a.
- Stack SV-Quench2, as measured by the company, was 18 inches in diameter, above the maximum allowed 6 inches in diameter set under PTI 1058-92A, FG-Quench, SC 2.4c.

Conclusion:

There were two instances of noncompliance, for the diameters of stacks SV-Quench1 and SV-Quench2 being wider than the maximum allowed 6 inches. A VN will be sent.

NAME



DATE

5/2/2024

SUPERVISOR

RB

BRO Heat Treat Air Permit Oil Loss Cals

Table 1. Heat Treat - Quench Oil and Soap Usage for Baldwin Operations 662/1244

As required for Air Permit

* Two oil deliveries were filtered reclaimed oil from Fenton Op's and Wythville Op's

Enter data in blue cells only Yellow cells are formula driven								2460g max per 12 month rolling		17,400 lbs. max per 12 month rolling				8400g max per 12 month rolling		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Mont .	Year	Hours of Operation (both furnaces)	New Quench Oil Delivered to Tank Farm (gallons)	Oil Removed from Quench Pit (gallons)	Oil Added to Quench Pit (gallons)	Decant (sluge removed, gallons)	Oil Loss (column 6 - column 5-0.30* column 7)	12 Month Rolling Total of Oil Loss (gallons)	Monthly Air Emissions (pounds, column 8 x 7.1 lbs/gl)	12 Month Rolling Total of Air Emmissions (pounds)	Floor Soap Purchased (gallons)	Parts Washer Soap Purchased (gallons)	Total Soap Usage (gallons)	12 Month Rolling Total of Soap Usage (gallons)	Oil reclaimed from the loaders of the furnaces	
															1244	662
Jan	2023	1,063.00	4,000	3,570.00	2,565.00	1,785	0.00	1,483.00	0.00	8,456.10	0	275	275	3,355	165	165
Feb	2023	1,085.00	0	2,295.00	1,779.00	1,148	0.00	1,348.00	0.00	10,529.30	275	550	825	3,850	165	165
Mar	2023	1,174.00	4,000	3,077.00	3,010.00	1,539	0.00	1,315.00	0.00	9,570.80	0	550	550	3,850	165	165
April	2023	1,323.00	0	2,640.00	2,640.00	1,320	0.00	1,296.00	0.00	9,336.50	275	0	275	3,575	248	247
May	2023	1,237.00	0	2,880.00	2,555.00	1,440	0.00	1,156.00	0.00	9,201.60	275	550	825	4,400	165	165
June	2023	1,314.00	4,000	2,380.00	2,337.00	1,190	0.00	960.00	0.00	8,207.60	275	0	275	3,850	165	165
July	2023	1,285.00	0	2,465.00	2,393.00	1,233	0.00	844.00	0.00	6,816.00	0	275	275	4,125	165	165
Aug	2023	1,370.00	4,000	2,880.00	2,875.00	1,440	0.00	744.00	0.00	5,992.40	0	0	0	3,850	165	165
Sep	2023	1,301.00	0	2,880.00	2,344.00	1,440	0.00	618.00	0.00	5,282.40	275	0	275	4,125	248	247
Oct	2023	960.00	0	1,600.00	1,368.00	800	0.00	413.00	0.00	4,387.80	0	0	0	3,850	165	165
Nov	2023	757.00	2,000	2,465.00	2,376.00	1,233	0.00	401.00	0.00	2,932.30	275	275	550	4,125	165	0
Dec	2023	866.00	0	1,920.00	1,873.00	960	0.00	0.00	0.00	2,847.10	0	275	275	4,400	165	165
Jan	2024	1,239.00	0	2,720.00	2,373.00	1,360	0.00	0.00	0.00	0.00	0	0	0	4,125	165	165
Feb	2024	1,033.00	0	2,640.00	2,604.00	1,320	0.00	0.00	0.00	0.00	0	550	550	3,850	165	165
Mar	2024	658.00	0	1,680.00	1,708.00	840	28.00	28.00	198.80	0.00	275	275	550	3,850	165	165
April	2024					0	0.00	28.00	0.00	0.00			0	3,575		
May	2024					0	0.00	28.00	0.00	198.80			0	2,750		
June	2024					0	0.00	28.00	0.00	198.80			0	2,475		
July	2024					0	0.00	28.00	0.00	198.80			0	2,200		
Aug	2024					0	0.00	28.00	0.00	198.80			0	2,200		
Sep	2024					0	0.00	28.00	0.00	198.80			0	1,925		
Oct	2024					0	0.00	28.00	0.00	198.80			0	1,925		
Nov	2024					0	0.00	28.00	0.00	198.80			0	1,375		
Dec	2024					0	0.00	28.00	0.00	198.80			0	1,100		

