

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

N713843202

FACILITY: KIRCHHOFF Van-Rob		SRN / ID: N7138
LOCATION: 16325 Felton Road, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: CLINTON
CONTACT: Walter Larry , Maintenance Manager		ACTIVITY DATE: 01/23/2018
STAFF: Julie Brunner	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Compliance inspection for PTI 3-17		
RESOLVED COMPLAINTS:		

On January 23, 2018, I conducted an unannounced, scheduled inspection of Kirchhoff Van-Rob (location of a former Demmer Corporation) located at 16325 Felton Road in Lansing. The last inspection of this facility was April 7, 2016.

Contacts:

Mr. Larry Walter, Maintenance Mgr., 517-657-2450, larry.walter@kirchhoff-automotive.com
 Mr. Maurice Turner, Manufacturing Eng., 517-657-2450, maurice.turner@kirchhoff-automotive.com
 Ms. Shayna Becker, Inventory Specialist, 517-657-2450, Shayna.becker@kirchhoff-automotive.com
 Mr. Mike Walsh, Corporate HS& Environment Manager, 905.727.8585 x422, michael.walsh@kirchhoff-automotive.com

Facility Description:

Kirchhoff Van-Rob is leasing the building from Demmer Corporation. At the Felton Road facility, they assemble metal parts for automotive applications. They are a parts supplier to GM. The facility is located off West Grand River Avenue on the northwest side of Lansing in a commercial and light industrial area. The Royal Scott Golf Course, Chapel Hill Memorial Gardens and Capital Regional International Airport are located just east of the facility on West Grand River Avenue.

Kirchhoff Van-Rob assembles and produces aluminum and steel metal parts for the Chevy Camaro and Traverse, and the Buick Enclave. They receive the metal components from their suppliers, and weld and glue the components to make the substructure of the vehicle (wheel house, rocker, etc.). There is no metal stamping in the plant. Production started in October of 2015.

At the time of the last inspection on April 7, 2016, Kirchhoff Van-Rob had 146 employees including office staff, and was operating 3 shifts per day. Kirchhoff Van-Rob was in the process of installing new cells of robotic welders for a new product line. The Chevy Traverse was coming. Sixty (66) more robotic welders were to be added along with approximately ten (10) more employees per shift. The facility has 145,000 square feet of floor space.

Facility Heat - Facility heat is provided by LBWL. No equipment for generation of energy, such as boilers, are on site.

Emergency Generators - There are no emergency generators currently installed at the facility. A Generac generator is in a box on the shelf. The generator is more a residential sized generator, and is to satisfy the requirements of GM. Mr. Walters was not sure if the generator will ever be installed.

Kirchhoff Van-Rob is a true minor source of any regulated air contaminants including hazardous air pollutants (HAPs) and not subject to the Title V Renewable Operating Permit (ROP) program. The facility has one Permit to Install (PTI) 3-17 for seven (7) steel component resistance welding cells in one flexible group, FG-Cells.

The emission units on PTI 3-17 are as follows:

Emission Unit (EU) ID	Emission Unit Description (Process Equipment & Control Devices)	Common Names and Info.
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Emission Unit (EU) ID	Emission Unit Description (Process Equipment & Control Devices)	Common Names and Info.
EU-InnerRocker	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Inner rocker, 3 part types, use black adhesive, installed 4-1-2015
EU-Dash	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Dash, 2 part types, use grey filler/fluff & black adhesive, installed 4-1-2015
EU-WheelHouse	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Wheelhouse, 4 part types, use purple & black adhesives, installed 4-1-2015
EU-ExtHA02	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Extension – HA02, Hinge Pillar – HA03, & Brace assembly HA02, 3 part types, use purple & black adhesives, installed 4-1-2015
EU-Plenum	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	C1Y plenum, 2 part types, use purple & black adhesives, installed 6-19-2017
EU-RRWheelHouse	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	C1Y RR Wheelhouse, 2 part types, use purple & black adhesives, installed 6-19-2017
EU-FrontWheelHouse	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	C1Y Front Wheelhouse, 2 part types, use purple & black adhesives, installed 6-19-2017

Exempt Emission Units (EU) ID	Emission Unit Description (Process Equipment & Control Devices)	Common Names and Info.
EU-RockerOuter (Rule 287(2)(a))	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Outer rocker, 2 part types, use purple adhesive, installed 4-1-2015
EU-Rails (Rule 287(2)(a))	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Rails, 1 part type, use purple adhesive, installed 4-1-2015
EU-Extension-Cell (Rule 287(2)(a))	Steel Component Resistance Welding Cell: Application of adhesives paste (no spray) via robot. In-plant emissions	Extension-Cell, 1 part type, use purple adhesive, installed 4-1-2015

Michigan Air Emissions Reporting System (MAERS):

The facility does not have to report to MAERS.

Inspection:

Arrived: 9:10 am

Departed: 12:30 pm

Weather: 36°F, wind SW @ 13 MPH, UV 0 Low

No visible emissions (VEs) were observed from the facility upon arrival. No odors were identified surrounding the facility.

A pre-inspection meeting was conducted with Mr. Larry Walter, Mr. Maurice Turner, and Ms. Shayna Becker. The facility operations were discussed, and then an inspection of the facility was conducted.

Plant Capacity: At maximum capacity

Staff #: 204 Shifts/Day: 3 Days of Operation/Week: 5 (to 6 sometimes) days/week

Incoming metal components go to storage shelves. From there, the aluminum and steel components go to resistance and MIG welding areas for assembly into the various automotive parts.

FG-Cells (PTI 3-17) -

The welding cells for resistance welding of steel components include the usage of VOC containing adhesives, and sealers (gap fillers). The cells are automated with robotic application of the VOC containing materials and robotic welders. Seven (7) welding cells are covered by PTI 3-17. The areas have no external vents. The metal parts are manually loaded into the cell and moved through the process robotically. The VOC containing materials used for assembly are a paste (no spray application). There is black and purple adhesives used, and a grey fluff (gap filler). The adhesives/sealers have a short shelf life (~3 months). The facility is now getting 55-gallon drums containing 30 gallons to minimize waste and cost. The partially full 55-drum is connected to an automated dispenser. The top of the dispenser pushes (like a squeegee) the paste into the line to the applicators. Fugitive VOC emissions are minimized with the system, and all containers are covered in compliance with Special Conditions (SC) III.1 and 2.

The facility has requested to use Safety Data Sheets (SDS) to determine the VOC content of the materials they use. The supplier, Henkel, lists the VOC content of the material per EPA Method 24. This meets the intent of SC V.1 and SC VI.2, and is acceptable. The facility needs to regularly (minimum annually) check with their supplier for any updates to the SDS. The records required by SC VI.3 are being properly kept using information from the SDS. The records review is discussed below.

For SC VII.1, it was reported that EU-Plenum, EU-RRWheelHouse, and EU-FrontWheelHouse were all installed June 19, 2017. A copy of this letter is attached.

Exempt Welding Cells -

Three (3) welding cells for resistance welding of steel components which use a VOC containing adhesive are operated under exemption Rule 287(2)(a). The adhesive application areas are not vented to the outside air, and Rule 287(2)(a) allows 2 gallons per day of adhesive. The three (3) welding cells rocker outer, rails, and extension – cell all use the purple adhesive. The VOC content of the purple adhesive is 0.0667 lb/gallon and 2 gallons of adhesive calculates to 0.134 lbs of VOC. Since the facility records are monthly, the facility is recording that no more than 2 gallons of adhesive is used in a month to show compliance (i.e., 0.134 lbs/month). However, there was an error in the spreadsheet used for recordkeeping and this is discussed below under "Records Review."

There are two (2) welding cells Hpillar and Rearend panel that do not use adhesives or sealers in the assembly process. These cells are exempt because welding is exempt from the requirement to obtain a permit under Rule 285(2)(i).

The "Cross Car Beam" welding area is another area that does not use adhesives or sealers. It consists of six (6) robotic MIG welders in two (2) automated booths for welding of aluminum components. The booths vent to an air scrubber that consists of an electric filter and two (2) particulate filters. Filters are emptied monthly. The air ventilation system vents out the roof at a height of approximately six (6) feet above the roof. The roof is 26 feet at the peak and 25 feet on the edges. The stack has a cap. This welding area is also exempt per Rule 285(2)(i).

There is a water treatment system for cooling water used by the robots. Water is provided by a municipal provider (LBWL). The facility adds biocides because the water tanks can get warm causing bacterial growth.

The rest of the facility is warehouse space with a small maintenance shop that includes a drill press, lathe, and surface grinding equipment. The metal working equipment is all exempt per Rule 285(2)(l)(vi)(A).

Records Review:

The facility records for 2017 were provided. The most current SDS for the black and purple adhesives, and grey fluff (gap filler) adhesive/sealant were obtained and are attached to the file copy of this report.

The VOC content of the materials used is as follows:

Grey - TEROSTAT 06-1272 adhesive with a VOC content of 0.31 lbs/gal (Method 24)

Black - TEROSTAT 06-1273 adhesive with a VOC content of 0.14 lbs/gal (Method 24)

Purple - TEROKAL 5089 adhesive with a VOC content of 8 g/L or 0.0667 lbs/gal (Method 24)

PTI 3-17, FG-Cells, SC II.1 limits the VOC content of the adhesive to 0.31 lbs/gallon (minus water). No adhesives are used in the process that exceed this limit.

For PTI 3-17, FG-Cells is limited to 1.3 tons per year (tpy) of VOC on a 12-month rolling time period per SC I.1. The records for the last 12-month were reviewed and it was discovered that the VOC content of the purple adhesive being used to calculate the emissions was in correct (0.00667 lbs/gallon). This was corrected and VOC emissions (including the exempt cells) for January 2017 to December 2017 were 0.37 tpy.

Also, when the VOC content of the purple adhesive was corrected, the exempt cells rocker outer, rails, and extension – cell were showing an exceedance of the 0.134 lb/month that had been identified as the “exemption” limit.

It appears that the three (3) exempt cells (rocker outer, rails, and extension – cell) aren't meeting the permit exemption due to an error in the VOC content in the spreadsheet. There are a couple of compliance options that could be evaluated:

1. PTI 3-17 could be modified to include three (3) more emission units (rocker outer, rails, and extension – cell).
2. There is a new permit exemption that may work. It is Rule 291, and it is a potential to emit (PTE) demonstration.
3. Continue to use exemption Rule 287(2)(a) and track usage on a daily basis instead of using the conservative assumption that no more than 2 gallons is used for the month in each cell.

Summary:

The facility appeared to be in compliance with PTI 3-17. The three (3) exempt cells (rocker outer, rails, and extension – cell) need to be re-evaluated for compliance with the applicable rules and regulations. This was discussed with Kirchhoff staff and they are considering options for the three (3) cells (rocker outer, rails, and extension – cell).

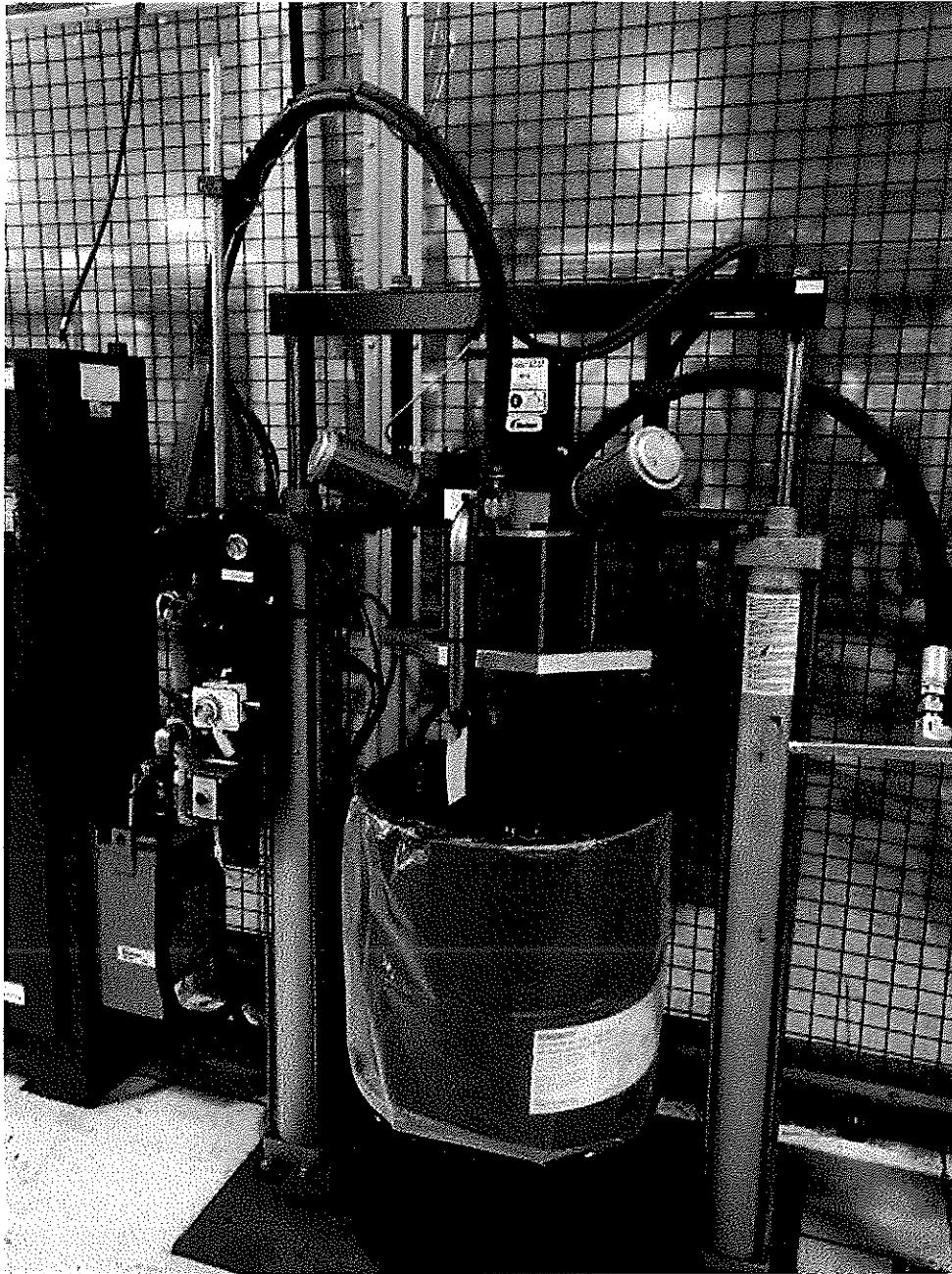


Image 1(1) : Adhesive dispenser to robotic application



Image 2(2) : Robots moving parts to adhesive application

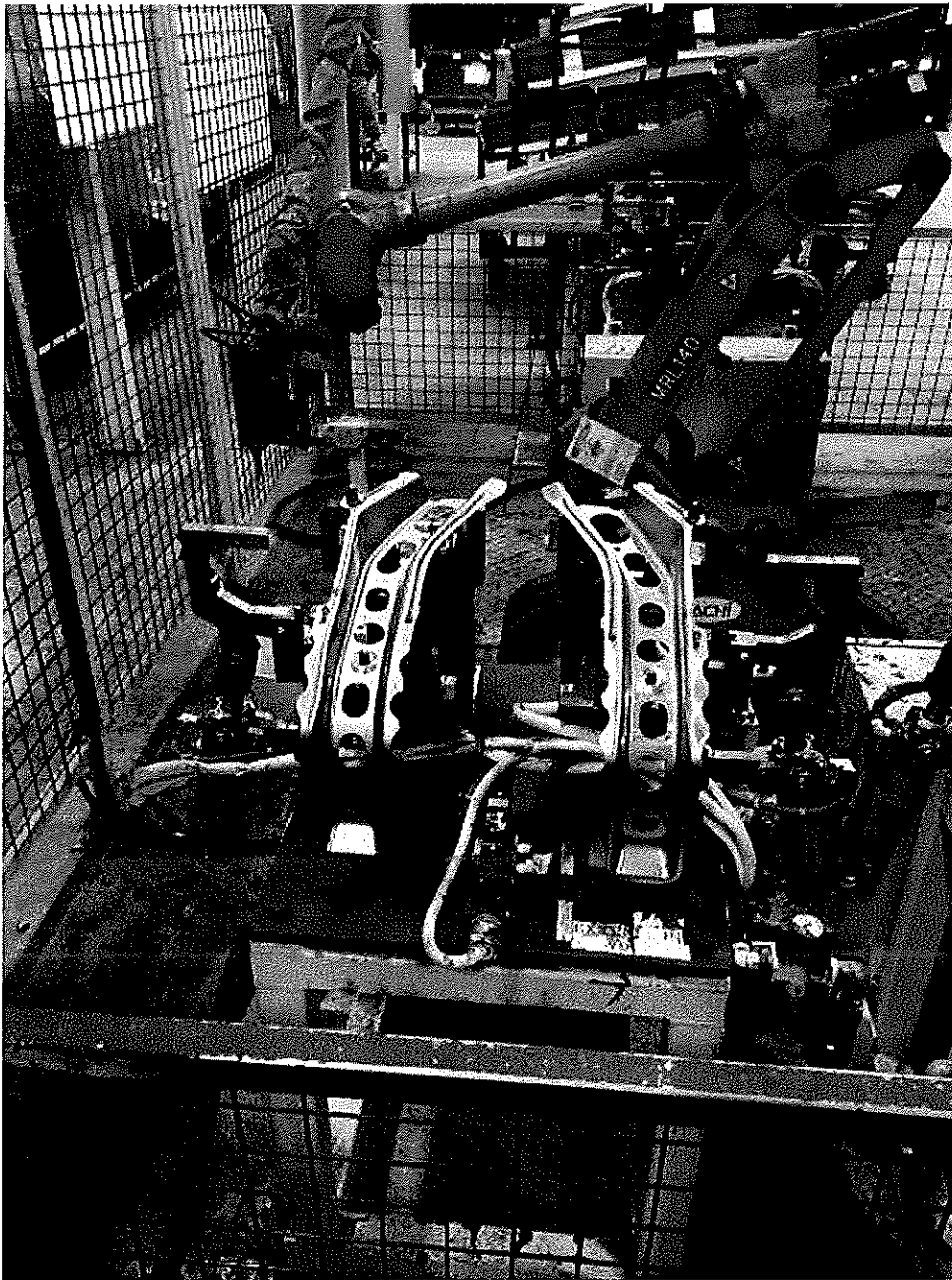


Image 3(3) : EU-ExtHA02

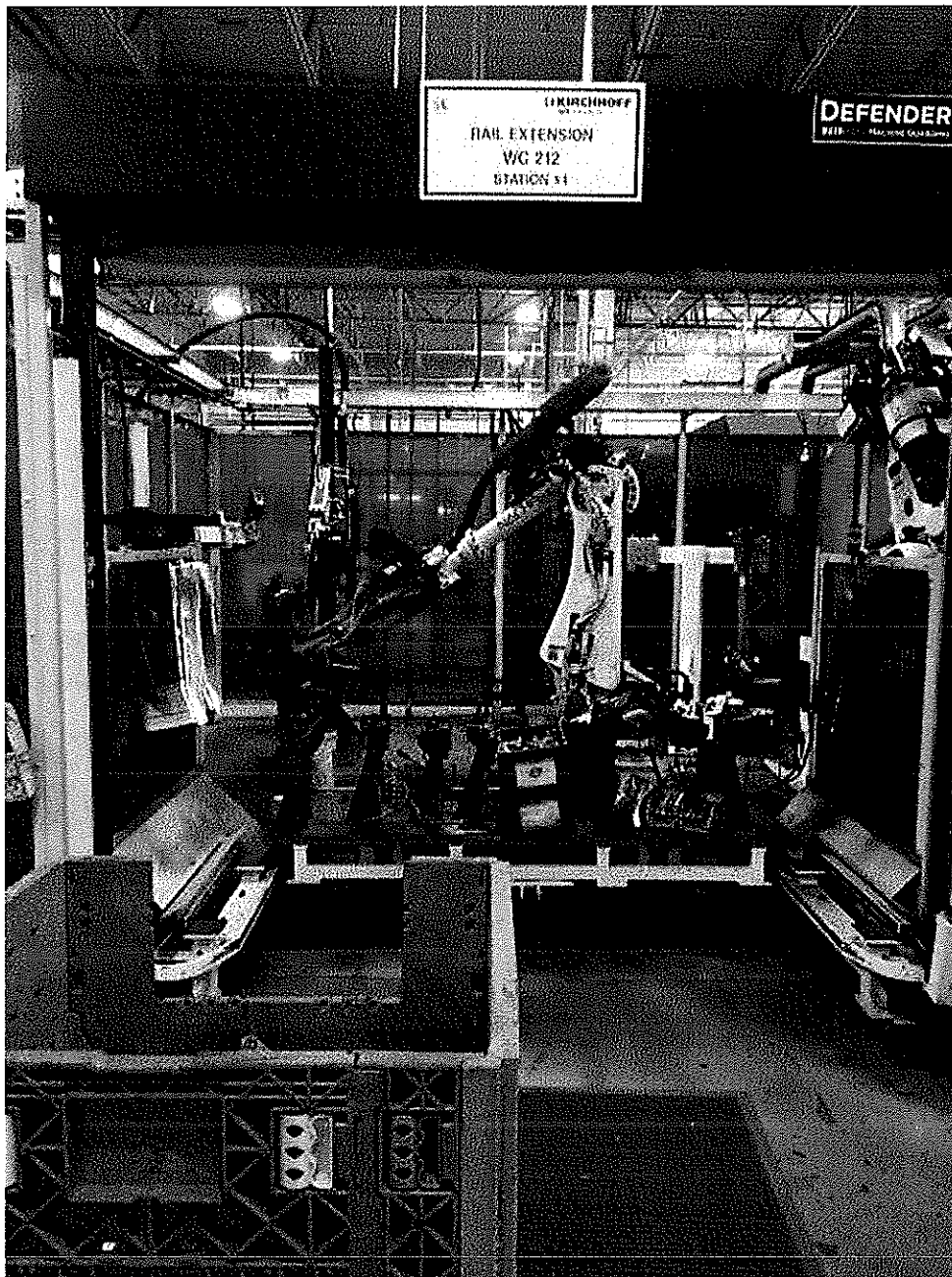


Image 4(4) : Rails welding cell

NAME Julie L. Brown DATE 2/1/18 SUPERVISOR B.M.