

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

N207941554

FACILITY: Lacks Industries, Inc.		SRN / ID: N2079
LOCATION: 4375 52ND STREET SE, KENTWOOD		DISTRICT: Grand Rapids
CITY: KENTWOOD		COUNTY: KENT
CONTACT: Karen Baweja, Supervisor of Air Quality		ACTIVITY DATE: 08/08/2017
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled Full Compliance Evaluation of the 52<sup>nd</sup> Street Complex. Earlier that morning, I had called Karen Baweja, Supervisor of Air Quality to let her know I was heading to the Barden Plating facility for a compliance inspection.

#### FACILITY DESCRIPTION

The Lacks Enterprises, Inc. 52<sup>nd</sup> Street Complex manufactures exterior plastic automotive parts. The stationary source consists of five (5) buildings which are included in this two section Renewable Operating Permit: 52<sup>nd</sup> Paint East, 52<sup>nd</sup> Paint West, 52<sup>nd</sup> Mold, Barden Plating, Protective Services Division and Barden Distribution. These facilities operate as one stationary source and are permitted pursuant to ROP No. MI-ROP-N2079-2012.

The 52<sup>nd</sup> Paint East facility primarily consists of one (1) main coating line that applies a prime, base and clear coat to the exterior plastic automotive part as required by the customer. The 52<sup>nd</sup> Paint West facility consists of eight (8) robotic booths that apply coatings and ten (10) manual booths that apply top coats to exterior plastic automotive parts. All the robotic booths at both the 52<sup>nd</sup> Paint East and Paint West are recirculating booths with the emissions captured and destroyed in regenerative thermal oxidizers.

The 52<sup>nd</sup> Mold facility has 24 injection molding machines. The injection molding process is exempt from New Source Review (NSR) permitting and Rule 210 pursuant to Rule 286.

The Barden Distribution consists of several coating booths and adhesive booths exempt from New Source Review permitting pursuant to Rule 287(2)(a) and Rule 287(2)(c).

The Barden Plating facility conducts decorative chrome electroplating primarily on plastic automotive parts, but also on plumbing fixtures, household appliances and business machines. The process consists of pretreatment, alkaline cleaning, acid dipping, and strike plating of copper, copper electroplating, nickel electroplating, and chromium electroplating. Electroless copper, conditioner, and rack stripping are controlled by wet scrubbers while the chrome plating and etching are controlled by composite mesh pad scrubbers.

The facility has source-wide synthetic minor limits for Prevention of Significant Deterioration for Volatile Organic Compound (VOC) emissions, limiting emissions to less than 250 tons per year.

The chrome plating operations are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chromium emissions. The painting operations are subject to the Plastic Parts Coating NESHAP. The emergency engines are subject to the Reciprocating Internal Combustion Engine NESHAP and the New Source Performance Standard (NSPS) for spark ignition engines.

The plastic parts coating operations went through permitting and was subject to limits established by the Lowest Allowable Emission Rate (LAER).

During the physical inspection, the Barden Plating facility was conducted first, and as such the compliance determination in this report will start with Section 2 of the ROP.

#### COMPLIANCE EVALUATION

## SOURCE-WIDE CONDITIONS

VOC's are limited to 250 tons per 12-month rolling time period as determined at the end of each calendar month. Reported 12-month rolling VOC emissions for the time period of August 2016-July 2017 are 54.5 tons.

### COMPLIANCE EVALUATION: SECTION 2

During the Barden inspection, Ms. Baweja and I were joined by David Coin and Mike DeVos.

#### EUCONDITIONER

This emission unit (EU) was recently underwent New Source Review for a higher emission rate of 1,3-dichloro-2-propanol. In order to receive a higher emission rate, a taller stack was required. The old permit limit is a 60' tall stack, and the new permit limit is for a 100' tall stack. This change has been completed and the new height incorporated into the ROP renewal. At the time of the inspection, testing had recently been conducted, with no results to verify compliance with the emission limit available. However, operating parameters were found to be within the ranges as established in the Operation and Maintenance (O&M) Plan. At the time of the inspection the pressure drop of the scrubber (B-1) was 2.5" H<sub>2</sub>O, the flow was 52.7 gpm and the bleed off was 4.2 gpm.

#### EUELECTROLESSNI

The electroless nickel plating tank is an optional process and does not operate if the electroless copper is in use. At the time of the inspection, the electroless copper was in use, and therefore this EU is not applicable.

#### EUELECTROLESSSCU

Stack testing was recently conducted on this emission unit. Formaldehyde is limited to 2.97 pph and tested emissions were 0.0659 pph. Methanol is limited to 12.2 pph and tested emissions were 2.6076 pph. Operating parameters were found to be within the ranges as established in the O&M Plan. At the time of the inspection the pressure drop of the scrubber (B-4) was 1.0" H<sub>2</sub>O, the flow was 175.6 gpm and the bleed off was 2.7 gpm.

#### EUEMERGENCYRICE-SI

The facility maintains the emergency generator as required, and following AQD request was able to provide a copy of the last annual oil change as required. In the ROP renewal, AQD staff changed this to a flexible group in case Lacks chooses to add more units in the future.

#### EUEMERGENCYRICE-CI

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#### FGCHROME1

This flexible group (FG) contains three chrome etch tanks, which are each an individual emission unit. The chrome etch tanks have been determined to not be subject to the chrome NESHAP. Stack testing was recently conducted on this emission unit. Total chromium is limited to 0.0025 pph and tested emissions were 0.0014 pph. Operating parameters were found to be within the ranges as established in the O&M Plan. At the time of the inspection, the pressure drop of the composite mesh pad scrubber (B-2) was 3.5" H<sub>2</sub>O and the evaporator was 1.33" H<sub>2</sub>O. The surface tension readings taken that morning at 8:00 AM were as follows: Tank 1- 32 dynes/cm, Tank 2- 34 dynes/cm, Tank 3- 36 dynes/cm. While the O&M Plan states that the surface tension shall be less than 45 dynes, this should be modified to a range that is more fitting with the tested level since the surface tension is directly related to the amount of chrome loading into the scrubber and therefore emissions. The surface tension during testing as established by a three-run average per tank are as follows: Tank 1- 35 dynes/cm, Tank 2- 35 dynes/cm and Tank 3- 35 dynes/cm. The O&M Plan should be modified to better match the tested parameters. During the inspection and data collection in the laboratory, it was learned that they keep the surface tension below 40 dynes/cm as a matter of practice. Safety Data Sheets were requested for the chemical fume suppressant used at this facility. It was verified that the chrome fume suppressant and the chrome etch fume suppressant do not contain perfluorooctane sulfonic acid (PFOS).

#### FGNEUTCATACC

This FG consists of three tanks including neutralizer, catalyst and accelerator exhausted through a common stack with no control (B-3). There is no emission limit.

#### FGCOPPER

This FG consists of six copper related tanks exhausted through a common stack with no control. (B-5). There is no emission limit.

#### FGSEMINICKEL

This FG consists of 5 semi-brite nickel tanks exhausted through a common stack with no control (B-6). Nickel emissions are limited to 0.028 pph and tested emissions were 0.0028 pph.

#### FGBRIMICRONI

This FG consists of three nickel tanks exhausted through a common stack with no control. (B-7) Nickel emissions are limited to 0.28 pph and tested emissions were 0.0011 pph.

#### FGCHROME2

This FG consists of three decorative chrome plating tanks exhausted through a common stack with a composite mesh pad scrubber and fume suppressant for control. Stack testing was recently conducted on this emission unit. Total chromium is limited to 0.0006 pph and tested emissions were 0.00049 pph. Operating parameters were found to be within the ranges as established in the O&M Plan. At the time of the inspection, the surface tension readings taken that morning at 6:00 AM were as follows: Tank 1- 36 dynes/cm, Tank 2- 36 dynes/cm, Tank 3- 36 dynes/cm. However, the surface tension during testing as established by a three-run average per tank are as follows: Tank 1- 35 dynes/cm, Tank 2- 39 dynes/cm, Tank 3- 38 dynes/cm. The O&M Plan should be modified to better match the tested parameters, however the permit limit is 45 dynes/cm. During the inspection and data collection in the laboratory, it was learned that they keep the surface tension below 40 dynes/cm as a matter of practice.

In 2004 the facility chose to stop using surface tension as the daily NESHAP compliance method and replace it with daily pressure drop readings of the composite mesh pad scrubber and maintain a chromium emission rate of less than 0.007 mg/dscm. This is established through stack testing conducted every two years. In 2015 the emission limit changed from 0.01 mg/dscm to 0.007 mg/dscm. The emission rate determined during testing conducted in May 2017 was 0.0043 mg/dscm and indicated compliance. The pressure drop during testing was ~3.1" H<sub>2</sub>O. At the time of the inspection, the pressure drop of the composite mesh pad scrubber (B-8) was 4.0" H<sub>2</sub>O and the evaporator was 1.00" H<sub>2</sub>O.

While all equipment was observed on the roof at the Barden facility it was noted that the chrome scrubber was covered in chrome drip marks. Mr. DeVos explained that a few weeks back, Lacks cleaned the evaporator packing because the pressure drop was slowly increasing. (not to a level above the limits of the O&M Plan) After the packing was cleaned, it was put back into the evaporator, however it was not done properly. The reason they knew it was not working was because scrubber mesh pad #1 pressure drop started to increase. Following an investigation, it was determined that because the evaporator packing was incorrectly installed, they were getting chrome blow by, and hence higher loading to the scrubber. It was clarified that while pad one was getting higher loading, pad #2 and #3 pressure drop was normal, and a visual inspection did not identify any issues. A visual inspection of the top of the stack did not identify any visible emissions there. Mr. DeVos stated that they conducted a clean in place power wash down of pad one from the roof. The facility also conducts visible emissions observations, which did not indicate any problem with emissions. They also removed the pads from the top to inspect them, and when that happens, chrome does spill. They apparently just didn't clean it up properly. This is not really an acceptable practice either, however the reason it occurred was due to properly responding to pressure drop increases and additional monitoring. The facility sent a photo the following day with evidence that the mess had been cleaned up. This will be further observed during future site visits.

#### FGSTRIPTANKS

This FG consists of a chrome strip and nitric acid strip tank controlled by a packed bed scrubber and mist eliminator. There is no emission limit. This unit clearly in the past has had emissions at a level that ate through the steel that supports the control device. Approximately 3 years ago, Lacks added a mist eliminator to this in a pad form, instead of the old chevron blade style that was in use. They feel that the emission of nitric acid has significantly reduced since then. This FG has not been required to conduct stack testing. Operating parameters were found to be within the ranges as established in the O&M Plan.

At the time of the inspection the pressure drop of the scrubber (B-9) was 2.5" H<sub>2</sub>O, the flow was 184.6 gpm and the bleed off was 4.2 gpm.

#### COMPLIANCE EVALUATION: SECTION 1

The inspection of Section 1 took place the following day on August 9, 2017, and began at the Paint East facility. Following Paint East, we went to Paint West, 52<sup>nd</sup> Mold and Barden Distribution facility. All coating equipment at this stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products promulgated in 40 CFR Part 63, Subparts A and PPPP.

At Paint East, Ms. Baweja and I were joined by Alan Beatty and Mike to talk about the new facility and plans for changes and if permitting is necessary. Basically, they are building a new facility to house the 52<sup>nd</sup> Mold equipment because the existing molding building is no longer meeting their needs. They stated that they don't plant to buy new equipment at this time. In this planning process, they don't know if they will move some new paint equipment into the 52<sup>nd</sup> Mold facility or if they will move some new paint equipment into Paint West, since painting has been down there. This is apparently 1.5-2 years away from being a for sure plan. I told them that they need to make sure that the changes are not part of the same project to be able to increase production across the facility. If so, the changes would need to be evaluated as to whether or not a significant change is made to VOC emissions which would be a 40 ton increase.

For the plant physical inspection we were joined by Larry Montgomery, maintenance supervisor and Sean, Process manager.

Recordkeeping as required by the permit was requested and received for AQD review. Information on emission limits is described in the emission unit and flexible groups as listed below.

#### EUPRIMEMANUAL

This EU consists of a manual spray booth that is limited to 45.0 tons VOC per 12-month rolling time period. VOC emissions from this booth are uncontrolled, particulate emissions are by a down-draft water wash system. Reported VOC emissions are 7.53 tons for the time frame of August 2016-July 2017. During the facility inspection, the recordkeeping program was observed from the mix room. The operator pulls up the "recipe" for the paint to be mixed on the computer. Then the recipe tells them exactly how much of each ingredient is added to the batch in either weight or volume. Then the computer program takes that information and transfers it as a coating, reducer and solvent used for that day and month. Monitoring and recordkeeping appeared to be conducted to meet permit requirements. Lacks did report that there was an issue with the recordkeeping of the 12-month rolling emissions limit, however it was corrected prior to the inspection.

#### EUBASEMANUAL

This EU consists of a manual spray booth that is limited to 60.0 tons VOC per 12-month rolling time period. VOC emissions from this booth are uncontrolled, particulate emissions are by a down-draft water wash system. Reported VOC emissions are 0.33 tons for the time frame of August 2016-July 2017. Monitoring and recordkeeping appeared to be conducted to meet permit requirements.

#### EUCLEARMANUAL

This EU consists of a manual spray booth that is limited to 30.0 tons VOC per 12-month rolling time period. VOC emissions from this booth are uncontrolled, particulate emissions are by a down-draft water wash system. Reported VOC emissions are 3.39 tons for the time frame of August 2016-July 2017. Monitoring and recordkeeping appeared to be conducted to meet permit requirements.

#### FGEASTPAINT

This FG consists of 13 spray booths and one oven with VOC emissions controlled by a regenerative thermal oxidizer (RTO) and particulate emissions controlled by the down-draft water wash system. VOC emissions are limited to 45.0 pounds per hour, 11.1 tons per month and 111.61 tons per year based on a 365-day rolling time period as determined at the end of each calendar day.

Records for June 2017 indicated that the highest hourly emission rate reported was 24.93 pounds per hour, below the limit of 45.0 pounds. Attached are records that include the breakdown of coating VOC calculations for manual and automated paint booths. The company is using 100% capture efficiency in

the calculations which is unlikely due to the paint odor in the plant environment. However, they routinely conduct a qualitative capture test using smoke tubes that indicates air flow is into the booths which meets the monitoring requirement.

Records through July 2017 indicate that the monthly emissions for FGEASTPAINT are 2.52 tons of VOC. 365-day rolling emissions for July 31, 2017 are reported at 25.5 tons of VOC. Both reported values are below the permitted amount.

The most recent RTO calibration report was requested and received. It was conducted on August 21, 2017 and prior to calibration the temperatures were within an appropriate margin of error. The RTO temperature is required to be at or above 1,400°F. During the inspection, the RTO temperature was 1,501°F. Recent testing of the RTO indicated a destruction efficiency of 96.41% which is above the minimum 95%. The down-draft water wash particulate system appeared to be installed and operating properly. All electrostatic applicators are equipped with a device to prevent electric current from being shut off. On two occurrences this past year, the temperature of the RTO went below 1,400°F due to low air pressure causing a flame fault and a thermocouple failure. Each issue caused the line to shut down the painting operations immediately and no emissions exceedance was reported.

Record of Method 24 testing for the 5 most frequently used coatings plus 2% of the remaining coatings were requested and received. These records with the lab information are not particularly clear, further interpretation/extrapolation should be conducted in the future to ensure they compare with the data provided.

Daily and monthly emissions records were requested and received as indicated above and were sufficient to determine compliance with the emission limits. Elements of the requirements for Compliance Assurance Monitoring (CAM) appear to have been met.

All referenced records are attached.

#### FGWESTROBOPAINT

This FG consists of eight spray booths and one oven with VOC emissions controlled by a RTO and particulate emissions controlled by dry mat filters. VOC emissions are limited to 80 pounds per day, 1.0 tons per month and 11.7 tons per year based on a 12-month rolling time period as determined at the end of each calendar month.

Records evaluated indicated that the highest daily emission rate reported was 67.02 pounds per day on June 26, 2017 which is below the limit of 80 pounds per day. Attached are records that include the breakdown of coating VOC calculations for the 8 automated paint booths. The company is using 100% capture efficiency in the calculations which is unlikely due to the paint odor in the plant environment. However, they routinely conduct a qualitative capture test using smoke tubes that indicates air flow is into the booths which meets the monitoring requirement.

Records through July 2017 indicate that the monthly emissions for FGWESTROBOPAINT are 0.37 tons of VOC. Reported 12-month rolling emissions through July 2017 are reported at 4.2 tons of VOC. Both reported values are below the permitted amount.

The most recent RTO calibration report was requested and received. It was conducted on August 21, 2017 and prior to calibration the temperatures were within an appropriate margin of error. The RTO temperature is required to be at or above 1,400°F. During the inspection, the RTO temperature was 1,492°F. Recent testing of the RTO indicated a destruction efficiency of 95.26% which is above the minimum 95%. This is the RTO that used to have issues with flame outs. The issue has been corrected and as a preventative measure they valve responsible for the issues has been added to the 6-month replacement schedule. On four instances in the past year, the temperature of the RTO went below 1,400°F. Each issue caused the line to shut down the painting operations immediately and no emissions exceedance was reported. The dry mat filters appeared to be installed and operating properly. All booths were equipped with HVLP spray guns and pressure is kept below 8 psi.

Record of Method 24 testing for the 3 most frequently used coatings were requested and received. At the current time, no exotic colors are in use. These records with the lab information are not particularly clear, further interpretation/extrapolation should be conducted in the future to ensure they compare with the data provided.

Daily and monthly emissions records were requested and received as indicated above and were sufficient to determine compliance with the emission limits. Elements of the requirements for Compliance Assurance Monitoring (CAM) appear to have been met.

All referenced records are attached.

#### FGWESTMANUAL

This FG consists of ten manual spray booths and one oven with uncontrolled VOC emissions and particulate emissions controlled by dry mat filters. VOC emissions are limited to 460 pounds per day, 5.8 tons per month and 70.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. During the facility inspection, the recordkeeping program was observed from the mix room. The operator pulls up the "recipe" for the paint to be mixed on the computer. Then the recipe tells them exactly how much of each ingredient is added to the batch in either weight or volume. Then the computer program takes that information and transfers it as a coating, reducer and solvent used for that day and month. Monitoring and recordkeeping appeared to be conducted to meet permit requirements.

Records evaluated indicated that the highest reported daily emission rate during October 2016 was 237.81 pounds on October 3<sup>rd</sup>, which is below the limit of 460 pounds per day. Attached are records that include the breakdown of coating VOC calculations for the 10 manual paint booths.

Records through July 2017 indicate that the monthly emissions for FGWESTMANUAL are 0.366 tons of VOC. Reported 12-month rolling emissions through July 2017 are reported at 5.7 tons of VOC. Both reported values are below the permitted amount. Records broken down into the red-black category and the non-red-black category were provided as required. Non red-black material limit is 5.0 lbs VOC per gallon of coating minus water as applied. The highest reported non red-black air dried coating VOC content was reported to be exceeded on one day at 5.04 lbs/gallon. It was reported that a total of 3.21 gallons of coating was sprayed on this day. Using the rules of rounding, technically, 5.04 would not round the emission up to 5.1 and as such really isn't an exceedance based on the number of significant digits. Red-black coating VOC content is limited to 5.75 lbs/gallon. The cure oven temperature is limited to 194°F, and the oven temperature observed at the time of the inspection was 181°F. No exotic coatings are used in this FG. Additional oven temperature records were requested and reviewed, and no temperature was at or above 194°F.

This RTO is shared with FGWESTROBOPAINT and as such meets requirements as identified above.

The dry mat filters appeared to be installed and operating properly. Magnehelic gages are used to identify when filter replacement is needed. All booths were equipped with HVLP spray guns and pressure is kept below 8 psi.

Record of Method 24 testing for the 3 most frequently used coatings were requested and received. At the current time, no exotic colors are in use. These records with the lab information are not particularly clear, further interpretation/extrapolation should be conducted to ensure they compare with the data provided.

Daily and monthly emissions records were requested and received as indicated above and were sufficient to determine compliance with the emission limits. Elements of the requirements for Compliance Assurance Monitoring (CAM) appear to have been met.

All referenced records are attached.

#### FGWESTMISPAIN

This FG consists of miscellaneous solvent usage at the paint west facility. It was reported that there has been no solvent used in EUWESTSTRIPTANK since April 2015. As such, compliance with the pound per hour requirement is not relevant. The unit itself was observed, to have a cover and closed as required. There is no stack present on this tank as identified in the ROP and as such it will be removed.

#### FGSUBPARTPPPP

This FG consists of each new, reconstructed, and existing affected source engaged in the surface coating of plastic parts and products subject to 40 CFR Part 63 Subpart PPPP. This includes spray

guns, dip tanks, surface preparation, cleaning, mixing and storage. Lacks currently has chosen the emission rate without add-on controls and the existing general use coating limit of no more than 0.16 kg organic HAP emitted per kg coating solids. This option requires that the coatings, thinners and/or additive and each cleaning materials used have an organic HAP emission rate less than the limit chosen, calculated as a rolling 12-month emission rate as determined on a monthly basis. Information was requested for thinning solvent and a review of the information provided verified that they contain no organic HAP.

The calculation of the organic HAP content for each material used in May 2017 including mass fraction of coating solids and coating density was requested and received. The review of this information indicates compliance with the NESHAP. The actual reported value for May 2017 was 0.054 lbs organic HAP/lb of solids on a 12-month rolling average.

Because Lacks does not utilize add-on controls to meet the emission limit, the monitoring is not presumptively acceptable for CAM and as such, CAM still applies to the emission units affected.

FGRULE287(c)

Adhesives used in EUWESTASSEMBLY were provided, and identified that 0.12 gallons were used in the month of June 2017. This is below the 200 gallon limit for this unit.

EUEASTSAMPLEBOOTH information was provided and usage was identified and the maximum usage for the time frame requested was 2 gallons. This is below the 200 gallon limit for this unit.

FGRULE290

Currently two emission units track emissions pursuant to Rule 290. Emissions records were provided for EUSASTESOLVRC, which are reported at 39.54 pounds for the month of June 2017. EUASSEMBLYOPS is the other Rule 290 emissions tracking. This applies to the emissions from Barden Assembly Facility. Emissions for this unit are reported at 517.5 pounds. It is noted that the recordkeeping did not identify emissions for these two units on a per CAS # basis as required. Lacks needs to update the recordkeeping to ensure it meets the specific CAS # toxic air contaminant recordkeeping requirements of Rule 290.

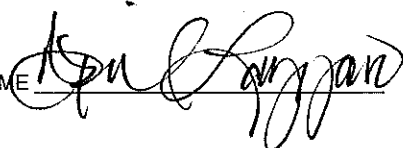
FGCOLDCLEANERS

One maintenance cold cleaner appears to be maintained as required.

CONCLUSION

Lacks Enterprises, Inc. was in compliance at the time of the inspection.

NAME



DATE

9-21-17

SUPERVISOR

