

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

M358238511

FACILITY: IAC Group, ALMA, LLC (Formally Lear Corporation)		SRN / ID: M3582
LOCATION: 1965 WILLIAMS RD, ALMA		DISTRICT: Lansing
CITY: ALMA		COUNTY: GRATIOT
CONTACT: Jeremy Haller, Engineering Manager		ACTIVITY DATE: 02/02/2017
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, unannounced compliance inspection to determine compliance with PTI 170-79I. PCE as conducted as part of an FCE.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Jeremy Haller (jhaller@iacgroup.com), Engineering Manager
Pam Howson (phowson@iacgroup.com), Sr EH&S Specialist

Other Personnel: Jim Colmer, Consultant

Purpose: Conduct an unannounced, scheduled, partial compliance evaluation (PCE) inspection by determining compliance with International Automotive Components' (IAC) Permit No. 170-79I, including verification that IAC stayed within the permit's emission limits to remain an opt-out source and not enter into Title V status. Additionally, this inspection was conducted to sample other coatings from their Camaro line that had not been sampled at the previous inspection in order to check for VOC and HAP content.

This inspection was done as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview: IAC is involved with making interior automotive parts: mold-injection; robotic and manual spray painting applications; applying "fabric" to the interior automotive parts, and assembling the interior automobile parts (for example, installing light tubes and wiring in overhead consoles). FGCOATING2 handles components for IAC's new project for the Camaro. Permit 170-79G was issued to cover 2 new emission units not previously covered in 170-79F: EUMANUAL and EUROBOTIC, and flexible group FGCOATING2 (for EUMANUAL and EUROBOTIC). Permit 170-79H was issued because IAC wanted to transfer all production from EUBOOTH1-4 to EUMANUAL and EUROBOTIC. EUBOOTH1-4, per PTI 170-79H, were required to be removed from service by May 1, 2015. On May 19, 2015 AQD received a letter from IAC dated May 5, 2015 notifying AQD that the EUBOOTH1-4 and its associated IR oven have been removed from service. Propylene carbonate was removed from PTI 170-79H because IAC no longer uses it. The current PTI, 170-79I, was issued to increase the FGCOATING2 lb/gallon VOC limit from 3.0 lb VOC/gallon (minus water) to 3.5 lb VOC/gallon (minus water), as a result of the previous inspection's findings that, per Method 24 testing, the 396W24313C exceeded the limit at 3.5 lb/gallon VOC (minus water).

IAC is an opt-out facility. VOCs are limited to 0.75 tpy from EUADHESIVELN; VOC and cumene, are limited to 64.2 tpy and 152.4 lb/year, respectively, for FGCOATING2; and each individual HAP and aggregate HAPS are limited to less than 9.0 tpy and less than 22.5 tpy, respectively, for FGFACILITY.

PTI 170-79I also includes the change to remove emission limits and monitoring/recordkeeping requirements for the toxic air contaminants (TACs) 2-propanol,1-(2-butoxy-1-methylethoxy) and tripropylene glycol methyl because the coatings containing these compounds are no longer used at IAC (365212AX, 36413X, and 396W102). The one remaining permitted TAC, cumene, is present only in hardener AWWL-0256 and has an emission limit and monitoring/recordkeeping requirements. Cumene is also considered a HAP and is reported as such for FGFACILITY. The other reported HAPs are xylene and hexamethylene diisocyanate (HDI).

J. Haller said that the Camaro line operates 5 days per week, 3 shifts per day. This is a decrease in production from the previous year where operating hours were 24 hours per day, 7 days a week (starting in October 2015). They continue to operate on this schedule unless the GM Grand River facility is down, in which case they will also shut down their lines.

Inspection: At approximately 8:30 a.m. on February 2, 2017 I arrived at IAC. I met with Jeremy Haller and Pam Howson, the new EH&S Specialist, to discuss the purpose of the inspection, and what I'd like to look at, including obtaining samples of AWWL-0256 for HAPs and VOC analysis and of AWWDF-9396 for VOC analysis. I have emailed a copy of the January 2017 updated PTI Exemption Handbook, but provided them with an old copy (2014) of the exemption handbook during the inspection.

J. Haller said that since the February 2016 inspection mold injectors/presses have been added and removed for a total of 36 mold injectors/presses currently onsite that can press from 90 to 2200 tons. They plan to replace 13 injectors over the next year, but also plan to remove some of the injectors to where the total number of mold injectors/presses is below 30. All mold injectors/presses located on the site are exempt from obtaining a PTI per Rule 285(2)(l)(i).

Process/Operational Restrictions

The Process/Operational Restrictions for all permitted emission units are the same. They require that all waste material be captured and stored in closed containers and to dispose of waste material in an acceptable manner and in compliance with all state rules and federal regulations. Additionally, all VOC/HAP-containing materials should be handled in such a manner to minimize fugitive emissions. J. McConkie said during the 2016 inspection that IAC ships out both hazardous waste and waterborne/non-hazardous waste containers. All hazardous and non-hazardous waste containers are located in the one-room paint kitchen, along with the various coatings/paint. Paint lines are hooked up to drums that are directly connected to the spray booths for coating parts.

All containers were closed during the inspection. There is one 55-gallon drum that collects the waste from purging lines that contain catalyst or solvent. These are considered hazardous waste. The purge lines are connected directly to the waste drums. P. Howson said that n-butyl acetate and isopropanol are used to purge the Camaro paint lines (shipped as hazardous waste) and a water/soap solution is used to clean out lines that use the 396 series paint (shipped as non-hazardous waste to Stoddard for treatment). She said they ship out 6-8 drums of hazardous waste per month and that waste manifests are submitted by the waste company, U.S. Ecology.

IAC is in compliance with all Process/Operational Restrictions for all emission units at this time.

EUADHESIVELN

EUADHESIVELN has a natural gas-fired oven to cure the parts.

All filters are required to be installed, maintained and operated in a satisfactory manner. The filters themselves are not visible because there is an overlay that protects the filters underneath, which was installed properly (the overlay completely covered all vent openings).

The gun applicators in this unit are required to be HVLP (application pressure is at or below 10 psig). The unit was currently in operation and therefore I did not ask that test caps be used to test the pressure coming out of the applicator nozzle; however, during the 2016 inspection I asked J. McConkie to use the test caps, which the permit requires to have on-hand, and test the pressure coming out of the EUADHESIVELN spray gun to verify that the pressure does not exceed 10 psig. The reading through the test cap was 1.5 psig, indicating proper operation of the gun as an HVLP applicator.

The adhesive line uses PPG T8085. Previously PPG T7944 was also used but had ceased being used in production as of February 2014. PPG T8085 has been used the entire rolling calendar year (Jan – Dec 2016).

I obtained the SDS and Air Quality Data Sheets (AQDS) for PPG T8085 and used these to determine if the correct VOC content was used to calculate emissions appropriately. IAC is limited to 0.3 lb VOC/gal (minus water) in their coatings for EUADHESIVELN. According to the data sheet, T8085 has a VOC content (minus water) of 0.03 lb/gallon. During the 2016 inspection, I asked John McConkie for a sample of T8085 in order to test for the VOC lb/gallon content to confirm that the data sheets are correct. Trace Analytical in Muskegon conducted a Method 24 analysis on this sample where the results indicate that the VOC content (minus water) of T8085 is 1.6 lb/gal; however, due to Method 24's limitations with VOC coating contents less than 1 lb/gallon, they are not considered accurate. IAC is in compliance with their coating material limits based on the data sheets.

The 12-month rolling limit for VOC is 0.75 tpy. From January 2016 through December 2016, the 12-month rolling VOC emissions were 0.09 tpy. IAC calculated these emissions based on 0.05 lb/gal without water VOC content, which is an overestimation of VOC emissions, as the VOC content *with* water and exempts should be used (additionally the T8085 AQDS specifies the VOC content is 0.03 lb/gal without water and 0.01 lb/gal with water). This was the case during the 2016 inspection as well and at the time of the 2016 inspection I informed IAC of this overestimation. At this moment in time it is not a concern considering IAC is maintaining VOC emission well below their VOC limits for EUADHESIVELN. IAC is in therefore in compliance with their VOC 12-month rolling emission limits from EUADHESIVELN.

FGCOATING2

FGCOATING2 is referred to as the "Camaro Line" and consists of 2 conveyerized automotive interior plastic parts coating lines: a flame treatment booth; de-stat blow-off tunnel; 1 manual spray booth (EUMANUAL); 3 automatic robotic spray applicators within 2 booths (EUROBOTIC); a flash tunnel and a natural gas-fired curing oven. The 3rd automatic robotic applicator (Robot 4) was installed December 2015. The flame treatment booth contains a flame that comes within inches of the part and treats the olefin plastic so that the paint can adhere to the part. There are 2 booths for the robotic applicators: robot 4 is located in one spray booth and robots 1 and 3 are both located in the other paint booth. J. Haller verified that the following coatings are used in the Camaro Line: 396W24313C (black lacquer), AWDF-9397 (black coating), and AWWL-0256 (hardener). AWDF-9397 and AWWL-0256 are applied in a 3.5:1 ratio by volume. J. Haller said that IAC might also add another color in the AWDF-9397 series coatings.

EUMANUAL and EUROBOTIC were all operating during the inspection. From my vantage point, without entering any of the booths while in operation, I determined that all filters appeared to be properly installed. J. McConkie said during the 2016 inspection that the fabric filters for all booths are replaced every day during the second shift and the floors are swept to dispose of booth fall-out particulate. J. Haller and P. Howson explained during this inspection that there are 3 layers to the booth filters in EUROBOTIC and EUMANUAL from outermost layer to innermost layer: blanket filter (visible layer, changed every 12 hours), panel filter, and pocket (bag) filters. The panel and pocket filters are changed once per week, every Sunday. The blanket filters are disposed of in a dumpster. Filters are allowed to dry prior to disposal. Particulate on the filter is very fine and heavy and isn't easily re-entrained into the air.

J. McConkie said during the 2016 inspection that OSHA had visited IAC to test the air in EUMANUAL in order to ensure that workers were not getting exposed above the Permissible Exposure Limit (PEL). He said that the results indicated all levels of pollutants were below the PEL. The OSHA inspection was the result of an AQD referral made to DLARA's Karen Odell when a complaint was received in early November 2015 concerning an employee being exposed to fumes and vapors from within the EUMANUAL booth.

During this inspection J. Haller and P. Howson explained that IAC began installations of automatic fan adjusters and air flow monitoring for all the booths in mid-January 2017 (when GM Grand River was not operating for 2 weeks) when they realized that the air flow through the booths was improperly balanced. The pull of the flow through the booths was strong enough that it caused particulate from the EUROBOTIC booths to be pulled through the EUMANUAL booth, consequently exposing the booth coating operator to be exposed to additional particulate and other pollutants originating from EUROBOTIC. The newly-installed monitors allow IAC to maintain a constant air flow in each booth: the automatic fan adjusters will allow the airflow system to be self-regulating and keep the system in balance so that the appropriate vacuum is applied to maintain both booths appropriately. Prior to this system they were using only manometers to detect airflow. The newly-installed air flow monitors are also able to track trends in air flow and allows for IAC employees to determine when the filters should be changed instead of the current practice of changing them every week.

The flash tunnel is used to evaporate the water and solvents from the coating. There is 1 natural gas-fired oven that services the Camaro line. The parts are sent through the oven to activate the catalyst in order to cure the paint on the parts.

Prior to the parts being coated they are hand-wiped to remove dirt and cardboard fibers with a mixture of isopropyl alcohol. There is one container of isopropyl alcohol that is less than 1 gallon in size that dispenses the solvent onto rags. Emissions from this process are negligible.

II. Material Limits

The coating VOC content limit for all coatings used in the Camaro line is 3.5 lb VOC/gal (minus water). The previous PTI, 170-79H had a coating limit of 3.0 lb VOC/gal (minus water); however, because 396W light camel (although it is no longer being used as of January 2016) and 396W24313C black lacquer exceeded the 3.0 lb/gal VOC content minus water limit (3.4 lb VOC/gal and 3.5 lb VOC/gal, respectively) a violation notice was issued and the PTI was modified to increase the VOC content limit to 3.5 lb/gal. IAC is now in compliance with VOC content limit for 396W24313C black lacquer.

During the 2016 inspection samples of coating AWDF-9397 and hardener AWXL-0256 were collected, as applied, causing them to react and thus analysis of the VOC and HAP contents could not be conducted. These two components are mixed in a 3.5:1 ratio (AWDF-9397: AWXL-0256). During this inspection we had one of IAC's employees collect two samples of hardener AWXL-0256 (1 for VOC content analysis, 1 for HAP content analysis) and one sample of AWDF-9397 (VOC content analysis). Results were received electronically from Advanced Technologies of Michigan (AToM) on February 23, 2017 for VOC analysis and February 24, 2017 for HAP analysis (attached). Table 1 shows the results for VOC content as applied (3.5:1 ratio) in comparison to the VOC content reported in the AQDS and/or the EDS. Based on AToM's Method 24 results, IAC is in compliance with the as applied VOC coating content of the AWDF-9397/AWXL-0256 mixture.

Table 1. Coating Specs for the Camaro Line (VOC): based on AQDS or EDS, AToM and Trace Analytical results. VOC lb/gal limit minus water is 3.5.

Coating	IAC-reported VOC (w/ H ₂ O) lb/gal	IAC-reported VOC (w/o H ₂ O) lb/gal	AToM Results (VOC lb/gal w/o H ₂ O) as applied**	Trace Analytical Results 2016 (VOC lb/gal w/o H ₂ O)	Density (lb/gal)	Coating VOC Content Compliance?
396W24313C (black lacquer)	1.19	2.8	NA	3.5	8.77	Yes
AWDF-9397 (coating)	1.4	3.0 (2.97 as applied)**	2.5	NA	8.96	Yes
AWXL-0256 (hardener)	2.7	2.8 (2.97 as applied)**	2.5	NA	9.03	Yes

** J. Colmer said although the AWDF-9397 has a VOC content of 3.02 lb/gallon (minus water and exempt solvents) the "as applied" VOC content is 2.97 lb/gallon because they do a mixture of 3.5 parts AWDF-9397 paint to 1 part of the AWXL-0256 hardener before applying it to the part.

J. Colmer explained that coating manufacturers have been known to alter the formulations of their coatings slightly, but still call it by the same name. I have made IAC aware that it is in the facility's best interest to occasionally check with the manufacturer to ensure that the coating contents they are using to determine emissions have remained consistent within the data sheets.

IV. Design/Equipment Parameters

According to SC IV.2, IAC is required to keep test caps available for pressure testing of the applicators. After the July 2015 inspection, J. McConkie had EUMANUAL, and Robot 1 and 3 applicators pressure-tested. Table 2 shows the atomization set points and actual test cap pressure readings. While the July 2015 pressure test readings on EUMANUAL and Robots 1 and 3 were not done in my presence, the readings indicate compliance: all actual readings are at or below 10 psig. IAC is in compliance with SC IV.2. During this inspection I had planned to retrieve test cap data for Robots 1, 3 and 4, but because production would have had to be interrupted we did not take the time to verify HVLP is being used at that time. Verifying the applicators on Robots 1, 3, 4 and EUMANUAL are HVLP will have to be done at a future inspection.

	Atomization Set Point (psig)	Actual Reading (psig)
Manual Spray	30	7
Robot 1 43	10	
Robot 3 43	10	

V. Testing/Sampling

IAC submitted a request to use manufacturer's formulation data in lieu of Method 24 analyses to determine VOC content, water content and density of the coatings, as applied. On 6/22/16 we sent an approval letter allowing IAC to use manufacturer's formulation data for emissions calculations purposes, but reminded IAC that if Method 24 analyses are conducted in the future, these will be used for determining compliance with VOC coating content limits.

VI. Monitoring/Recordkeeping

IAC maintains electronic records of the coating specs for each coating (VOC, HAP and TAC wt%; water content, and density); the VOC emission calculations per calendar month and 12-month rolling tonnage; TAC emissions calculations per calendar month and 12-month rolling tonnage; and HAP emissions calculations per calendar month and 12-month rolling tonnage (for FGFACILITY). Attached are the spreadsheets. Cumene is not listed in their TAC emissions tab, but is accounted for in the HAPs emissions tab. I will make IAC aware that cumene is still considered a TAC.

According to IAC's emission calculation spreadsheet, VOC's are calculated from VOC content lb/gal minus water for all 3 coatings, which is an overestimation of the emissions. To produce more accurate VOC emissions, the lb/gal VOC content with water should be used. IAC is aware of this, as I pointed this out to J. McConkie and J. Colmer during the 2016 inspection. I will remind J. Haller and P. Howson of this as well, as VOC emissions (calculated from w/o water coating specs) for the 12-month rolling year are close to the limit of 64.2 tpy at 56.09 tpy.

Cumene is present only in AWXL-0256. In Atom's HAP Method 311 analysis of AWXL-0256 the results indicate that the cumene and xylene (both HAPs) contents was found to be within or below the ranges reported on the AQDS.

The cumene emissions calculations for all months after January 2016 were not calculated via formula so it is unclear where the reported emissions came from. I will make IAC aware of this. The 12-month rolling total based on the lbs emitted entered into the excel spreadsheet by IAC equals 124.94 lbs of cumene. However, using self-calculated emissions based on actual coating usage supported in IAC's spreadsheet, the actual cumene emissions would be 114.7 lbs for the 12-month rolling year. In either case, IAC is in compliance with the 152.4 lb/year cumene limit.

Table 3 contains the VOC and TAC (cumene) 12-month rolling emissions and emissions limits. IAC is in compliance with VOC and cumene 12-month rolling emission limits at this time.

Table 3. 12-month rolling emissions for VOC and TACs

Pollutant	Actual	Limit
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	(Jan 2016 – Dec 2016)	(12-month rolling)
VOC	56.1	64.2 tpy
Cumene	124.94	152.4 lb/year

IAC is in compliance with both its emissions limits and monitoring/recordkeeping requirements at this time.

VIII. Stack/Vent Restrictions

Verification of the stack heights for all stacks was done by J. McConkie during a past inspection. New stacks were installed to accommodate the new booths for FGCOATING2 (SV-MANUAL, SV-ROBOT1, SV-ROBOT2 and SV-NATGASOVEN2). The following table summarizes the floor plan heights versus the required stack heights in PTI 170-79H. Attached is the floor plan with associated stack heights. There were no signs of opacity emitting from any of the stacks during the inspection. IAC is in compliance with the stack height requirements at this time.

Table 4.

Stack & Vent ID	Permitted Minimum Height Above Ground (ft)	Actual Height Above Ground (ft)
SV-MANUAL	37	38.2
SV-ROBOT1	37	38
SV-ROBOT2	37	39
SV-NATGASOVEN2	37	38

FGFACILITY

IAC has individual and aggregate HAP limits. IAC has also identified formaldehyde, ethenyl benzene, hexamethylene diisocyanate (HDI), xylene, cumene and chlorobenzene, as HAPs in their HAPs recordkeeping. Within their electronic spreadsheet IAC tracks the gallons of HAP-containing materials used, the HAP content, and individual and aggregate HAP emissions calculations on a monthly and 12-month rolling basis. Table 6 shows the HAP content of all coatings IAC is currently using. Table 7 shows HAP emissions versus permit limits. As shown in Table 7, IAC is in compliance with all FGFACILITY individual and aggregate HAP limits at this time.

Table 5. HAP content of various coatings

Coating	EU	Chlorobenzene (wt%)	Cumene (wt%)	Ethenyl benzene (wt%)	Formaldehyde (wt%)	HDI (wt%)	Xylene (wt%)
396W2413C	FGCOATING2	NA	NA	0.01	0.01	NA	NA
AWDF-9397	FGCOATING2	NA	NA	NA	NA	NA	NA
AWXL-0256	FGCOATING2	NA	0.16	NA	NA	0.23	0.23
T8085	EUADHESIVELN	0.1	NA	NA	NA	NA	NA

Table 6. Aggregate and Individual HAP emissions vs. HAP limits for Jan 2017 – Dec 2017

Pollutant	Actual Individual HAP (tpy)	Limit Individual HAP (tpy)
Chlorobenzene	0.04	9.0
Cumene	0.06	
HDI	0.08	
Formaldehyde	0.001	
Xylene	0.03	
Total Aggregate HAPs Jan 2016 – Dec 2016	0.21	22.5

Compliance statement: IAC appears to be in compliance with PTI 170-79I at this time.

Inspector's Safety and Health: Those entering the facility are required to electronically sign in and watch a safety presentation. After confirming you've watched the presentation a "badge" is printed out for you.

Safety glasses are required.

NAME M. McConkie

DATE 3/15/17

SUPERVISOR [Signature]

