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

N290840371

FACILITY: TAC MFG INC		**SRN / ID:** N2908
LOCATION: 4111 COUNTY FARM RD, JACKSON		**DISTRICT:** Jackson
CITY: JACKSON		**COUNTY:** JACKSON
CONTACT:		**ACTIVITY DATE:** 06/22/2017
STAFF: Mike Kovalchick	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Unannounced compliance inspection.		
RESOLVED COMPLAINTS:		

Opt-out Source for HAPs-Full Compliance Evaluation

Facility Contact

Tiffany McCann: Environmental and Safety Specialist

tmccann@tramgroup.com

http://www.tramgroup.com/

Purpose

On June 22, 2017, I conducted an unannounced compliance inspection of TAC Manufacturing Inc. Company) located in Jackson, Michigan in Jackson County. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules and the Company's Permit's to Install (PTI) 284-04B & 254-02A.

Facility Location

The facility is located in the city of Jackson in an industrial park with residential homes just north of the facility. See aerial photo dated October, 2016.

Facility Background

The facility was last inspected on May 17, 2013 and was found to be in compliance.

The facility currently produces automotive steering wheels, shift levers, key sets, steering handling locks and seat belt components.

On June 19, 2017, a new permit application was submitted to the DEQ-AQD. It was for a new plastic parts coating line and modifications to existing PTI 254-02A. It will be used to coat outer mirror housings. The new mirror coating line will consist of a base paint booth, a clear coat booth and a curing oven. Emissions from both booths and the curing oven will be routed to a new RTO. (Capture will be 90% with 95% control expected.) Current APS line booth and oven (FGAPS in PTI 254-02A) will be routed to new RTO.

The existing emission units at the facility are as follows:

EU-INMOLDBOOTH A dry filter robotic spray coating booth, with four (4) HVLP or equivalent spray guns. In-mold coatings are applied to the inner surface of molds and then the molds are transferred to the reaction injection molding (RIM) process booth, where plastic parts for automobiles are made by the RIM process. The in-mold coatings sprayed on to the mold get transferred on to the parts being molded in the RIM process. At any given time, only one of the four spray guns is in operation. (PTI 284-04B)

EU-MISCMOLD This emission unit includes three (3) hoods and a manual spray booth. The 3 hoods are stations for overflow removal (bun pull), de-mold and mold cleaning processes. The mold release operation is performed in the dry filter mold release spray booth using a robotic HVLP or equivalent spray applicator. The VOC emissions are exhausted uncontrolled through the mold release spray booth.

(PTI 284-04B)

The actual RIM process associated with EU-INMOLDBOOTH & EU-MISCMOLD is exempt per Rule 286(e).

FG-RSTINMOLD = EU-INMOLDBOOTH & EU-MISCMOLD (PTI 284-04B)

EUBOOTHS Two water wash spray coating booths used to apply basecoat and clearcoat, using robotic HVLP guns to spray-coat wooden steering wheels. Emissions will also include purge and cleanup operations in the two booths. (PTI 254-02A)

EUMISC/OPERATIONS The operations include solvent based filler application and staining of wooden steering wheels. Also included are gluing operations; the application of expansion material and epoxy to the steering wheels, and isopropyl alcohol wipe operations. (PTI 254-02A)

EUAPSBOOTH1 Plastic automotive parts automatic paint system line which includes one robotic booth equipped with HVLP applicators and a water curtain for particulate control, as well as a shared paint kitchen, flash-off area, natural gas-fired curing oven and a paint room for loading and unloading parts. (PTI 254-02A) (It was operating under Rule 287 (c) permit exemption till there was a production increase.)

EUAPSBOOTH2 Plastic automotive parts automatic paint system line which includes one robotic booth equipped with HVLP applicators and a water curtain for particulate control, as well as a shared paint kitchen, flash-off area, natural gas-fired curing oven and a paint room for loading and unloading parts. (PTI 254-02A) This booth was not constructed and will be removed from PTI 254-02A when permit is revised.

FGCOATING = EUBOOTHS & EUMISC/OPERATIONS (PTI 254-02A)

FGAPS = EUAPSBOOTH1 & EUAPSBOOTH2 (PTI 254-02A)

FGFACILITY=HAPS Restrictions for processes at facility. (PTI 254-02A)

4 MM BTU/Hour natural gas fired boiler used to supply indirect heat to 2 drying kilns used to dry wood. (PTI 254-02A-Exempt) Boiler and each kiln have separate stack. (Exempt per Rule 281(e).)

Wood working/carving/sanding operations controlled by 2 Baghouses (Dust & Chip collectors) PTI 254-02A. (Exempt per Rule 285(l)(vi).)

This equipment was removed December, 2015. 10 RIM Booths (4 wheel and 5 pad), 1 adhesive machine, 1 paint mixing area all covered under voided PTI 383-84. The RIM booths produced steering wheels and steering wheel pads which cover the air bag in the wheel. The process used an in-mold coating as a colorant for the outer skin of the steering wheels/pads. The adhesive was used to adhere the aluminum wheel frame to the RIM steering wheel. (Called North RIM by plant personnel.)

EUshotblast-6 shot blast units (one no longer used) for zinc, aluminum and magnesium parts and wet dust collector. Installed in 2005. (Exempt per Rule 285 (2) (l) (vi)(C).)

Regulatory Applicability

The entire facility currently operates under 2 separate PTI permits. PTI 284-04B was issued on February 23, 2016. PTI 254-02A was issued on October 27, 2016. It contains language to restrict all facility operations included under both permits plus all permit exempt equipment to emission less than 9 tons of a single HAP and 22.5 tons of combination of HAPs.(Synthetic minor for HAPs)

The facility is currently considered a minor source for VOC emissions but will be a synthetic minor source for VOC emissions when new permit is issued for a new plastics parts coating line.

The facility is not subject to 40 CFR Part 63, Subpart PPPP - National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products because not a major source.

The facility is not subject to 40 CFR Part 63, Subpart HHHHHH - National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources since the coating compounds used at the facility do not contain the "target HAP" compounds

that include chromium, lead, manganese, nickel or cadmium.

The facility is not subject to 40 CFR Part 63, Subpart OOOOOO - National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources. The foam used at the facility is "closed cell" foam and therefore does not meet the Section 63.1292 definition of "flexible polyurethane foam".

"Flexible polyurethane foam means a flexible cellular polymer containing urea and carbamate linkages in the chain backbone produced by reacting a diisocyanate, polyol, and water. Flexible polyurethane foams are open-celled, permit the passage of air through the foam, and possess the strength and flexibility to allow repeated distortion or compression under stress with essentially complete recovery upon removal of the stress."

The facility's two emergency generators are subject to 40 CFR Part 63, Subpart ZZZZ-National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. (RICE MACT). However, there is an exemption in the Subpart for commercial emergency generators. To be considered an exempt emergency generator:

"Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

There are several PTI exempt processes at the facility. (Refer to Facility Background section.)

Arrival & Facility Contact

Visible emissions or odors were not observed upon my approach to the Company's facility. I arrived at 9:20 am, proceeded to the facility's entrance lobby to request access for an inspection, provided my identification and spoke with Tiffany McCann(TM) Environmental and Safety Specialist for the facility.

I informed her of my intent to conduct a facility inspection and to review the various records as necessary.

TM extended her full cooperation during my visit and fully addressed my questions.

Pre-Inspection Meeting

TM brought several people into the meeting including Beth Masters, her manager, Cassie Gubow, an auditor with the parent company and other plant personnel to help with answering any questions I might have.

TM outlined that the facility is currently operating 2 to 3 shifts 5 to 6 days a week. There are currently 1000 employees and business is good.

Next, I asked a series of questions related to recent developments at the facility. TM indicated that the RTO was shut down in March 2015 and is no longer operational condition. The emissions that exhausted through it from the In-Mold Coating Booth now exhaust out a similar stack adjacent to the VOC filter box located on the roof that preceded the old RTO. The new RTO associated with permit application 254-02B will be going in where the old RTO is now. The new plastic parts coating line (Mirror Line) will be going where the Finishing Room is currently located associated with the Natural Wood

Steering Wheel production process that is associated with PTI 254-02A. The new line is scheduled to go in this fall. (Note: A construction wavier request was submitted by the Company dated June 26, 2017 for the plastic parts coating line.)

We discussed the 2 kilns that are used to season the wood used for the steering wheels. They currently use walnut and several types of maple. Only one kiln is operated at time with a residence time of about 3 days in the kiln. In 2016, they processed 119,134 kg of wood through the kilns. I had some concern that there could be VOC emissions due to degradation products from the wood. (Later I was shown records that indicated the kiln is operated at between 40 to 67 degrees C. This temperature is too low to create VOC emissions from hardwood.)

We discussed the APS booth. This booth/oven is going to be tied into the new RTO along with emissions from the new plastic parts coating line. They are doing this because the APS booth/oven are currently operating close to their PTI VOC emission limit. The second APS booth that is listed in their PTI permit was never installed and won't be included in the revised permit.

We discussed EU-MISCMOLD. This emission unit consists of 3 hoods and a mold release spray booth. A review of MAERS showed that there was a VOC emission exceedance coming from this emission unit. (6.5 TPY Limit vs 7.96 Tons reported.) Cassie Gubow indicated that they found a mistake in their spreadsheets and had corrected it already. A mold release compound was listed has having a very high percent of VOC when it was actually very high in water. When the correction was made to the spreadsheet, the VOC emissions dropped by about half.

We discussed emission levels in 2016. One of the regulated pollutants in their PTI's is HDI. They estimated 46 pounds of emissions in 2016. There were 5.09 tons of toluene emissions, 4.33 tons of xylene emissions and total HAP emissions were 15.39 tons.

We discussed how they keep paint records. They track coating/solvent usage by inventory controls. They know how much they have on hand at the beginning of the month and subtract what they left at the end of the month. They know where each coating is used so they can track usage for each booth etc. When a compound is used is in more than one location (such as a mold release compound), they have sheets available at locations for the operators to record usage. Purge solvent is used in between different color change overs. The waste purge goes directly into the water curtain control devices for the booths. A chemical is added to break down the paint(the solids form into non-hazardous sludge and the waste water is pumped into a truck and removed offsite after being tested to show it is known hazardous. Any waste solvent that is disposed of in drums as hazardous waste is deducted from the VOC usage total but all the purge solvent is assumed to be lost.

Next, I suggested to the TM that the Company should consider voiding out PTI 284-04B for simplicity stake and adding the emission units to proposed new PTI 254-02B since that permit is an opt-out permit for the whole facility covering PTI 284-04B which makes it somewhat confusing to understand using the 2 PTI permits they currently have.

Finally, I went gave TM a verbal list of locations that I wanted to visit in the plant. Safety glasses were required. Hearing protection and a hard hat were required for part of the facility.

Onsite Inspection

TM gave me a plant tour. (Several other facility personnel accompanied me on the tour.) Overall, the facility appeared to be clean and well maintained with limited odors noted in a few locations. Most of the areas of the very large facility were seen during the walking tour from a distance with the more important areas from an air quality perspective were visited up close. This included the RIM system, the natural wood steering wheel production area, the shot blast area that is part of Die Cast, and the APS line. Attachment (1) is a process flow diagram of the RIM system associated with PTI 284-04B. Attachment (2) is a process flow diagram of the Natural Wood Steering Wheel production line associated with PTI 254-02A.

We looked at 2 emergency generators that they have. One is located in the North Mechanical area and the other in the Die Cast area. Both are 200 KW in size and were installed in 1990's. They are powered by diesel stored in small adjacent storage tanks. They are tested once a week. The Company did not appear to be aware of RICE MACT requirements. They did indicate that they have Superior Industries do a mechanical inspection once per year. See attached photos.

We went to the Die Cast area to look at the shot blast machines. They shot blast various parts including steering wheels. This includes zinc, aluminum and magnesium. There are six shot blast machines. One of the machines is no longer used. Most are vented internally but the 2 magnesium shot blast units are vented externally after passing through a dedicated wet scrubber no doubt due to the hazardous nature of magnesium. Both of the magnesium shot blast booths were not operating during the inspection. However, one of the wet scrubbers was on. It showed a pressure drop of 4" of water. These processes are considered exempt from permitting. See attached photos.

We went to look at the 2 dust collectors that are associated with wood machining operations that are part of the natural wood steering wheel production process. They have the chip silo dust collector that handles the larger particle size wood pieces from the rough machining operations and the "dust collector" that hands the wood particles from the finishing/sanding operations. The heavier solids from both collectors feed into a waste silo. Waste wood from this silo are periodically hauled away. No wood chips/saw dust etc. were seen in the vicinity of the collectors. Both collectors exhausted at near ground level with exhaust vents pointed downward at an angle towards the ground. Both collectors contain 216 bags. All the bags are changed out once per year. Each dust collector contains a jet pulse system to shake out the dust from the bags. The dust collectors are located outside in between buildings with the control panels located inside in an adjacent area. Pressure drops indicators were located there. The chip collector showed a pressure drop of 13" while the other collector showed a 4" pressure drop. The control panel indicated that the storage bin was 50% full. These dust collectors are considered exempt per Rule 285. The exemption requires appropriately designed and operated fabric filters. It appears the dust collectors are appropriately designed and operated although how emissions are exhausted are not optimal. See attached pictures

We went to look at old RTO which will be location of the new RTO. The old RTO was not operating nor was the associated fan. It appeared to be in poor condition and no longer useable. There were no signs of any new construction associated with the proposed new RTO. From the vantage point of the old RTO, I was shown where the In-Mold Coating Booth was now exhausted through an existing stack associated with the RTO VOC filter box located on a lower section of the roof. See attached photos.

We next did an inspection of the roof. We visited 3 different roof sections of the facility. Attachment (3) is a roof diagram showing many of the important stacks at the facility. The roof appeared to be well maintained with no signs of any paint or particulate fall-out. Ventilation ducts and associated stacks appeared to be in an excellent condition. The exemption to this was some of the ventilation ducts in the vicinity of the VOC filter box. Some of the ducts appeared to be corroded although there was no indication that the integrity of the ducts had been compromised. Nevertheless, some strong paint odors were noted in that area but it wasn't clear where they were coming from. Mostly likely, the odors were simply down washing from the adjacent clear booth or color booth exhaust stacks. No other findings on the roof. See attached photos.

Next we visited the location of where the new plastic parts coating line (mirror line) will be going in.

It is where the Finishing Room is located now. (See attached photo.) The work that is done in the Finishing Room will be moved to an adjacent area. There were no signs of construction. Next to the Finish Room is oven associated with clear coat booth that is part of wood wheel production process. (See attached photo.)

Adjacent to this area, was the APS area. The actual APS area was heard to see as it appears to be a permeant total enclosure and could only be viewed through 2 consecutive closed doors looking through the window. The associated paint kitchen was also observed through a closed door. (See attached photos.) Next to the APS paint booth was the back end of the associated water curtain. Liquid could be seen circulating. Strong VOC odors were noted in the area next to the water curtain. I noted a couple of buckets of tried sludge. It was explained to me that the sludge was tried solids from the water curtain. It is rendered non-hazardous by adding a chemical to the paint/water curtain wastewater. See attached photos. Next to the APS area, I could see the back of the knob coating booth. The booth no longer is being used since the work associated with them has been phased out.

The kilns were not inspected since they were not operating. However, I was shown an operator's log that showed the operating temperature of the kiln to be between 40 and 67 degrees C.

Recordkeeping/Permit Requirements Review

TM provided requested records on 6/26.

"TAC's Air Permit 254-02A:

- *HDI content of each glue, expansion material, epoxy, wood filler, stain, coating and/or solvent currently used in FGCOATING*
- *May 2017, FGCOATING VI, Monitoring/Recordkeeping 2. a,b,c & d*
- *May 2017, FGAPS VI, Monitoring/Recordkeeping 3. & 4.*
- *May 2017, FGFACILITY VI, Monitoring/Recordkeeping 2, 3 & 4*

TAC's Air Permit 284-04B, May 2017 tracking:

- *FG-RSTINMOLD VI, Monitoring/Recordkeeping 3*

RICEMACT (from January 2017):
Generator North Mechanical Room:

- *Records of Hours run (less than 500)*
- *Annual Check, due to not hitting over 500 hours (Oil, filter, hoses, and belts)*
- *Annual Check, due to not hitting over 1000 hours (air cleaner)*

Generator Die Cast Mechanical Room:

- *Records of Hours run (less than 500)*
- *Annual Check, due to not hitting over 500 hours (oil, filter, hoses, and belts)*
- *Annual Check, due to not hitting over 1000 hours (air cleaner)"*

Attachment (4) is the requested data for FGCOATING. It shows compliance with the 33.2 tons/year limit. (Currently 27.3 tons/year 12 month rolling average.)

Attachment (5) is the requested data for FGAPS. It shows compliance with the 12.5 tons/year limit. (Currently 10.95 tons/year 12 month rolling average.)

Attachment (6) is the requested data for FG-RSTINMOLD VI. It shows compliance with 6.5 tons/year limit. (Currently 2.262 tons/year 12 month rolling average.)

Attachment (7) is the requested data for FG-FACILITY. It shows compliance with the Single and total HAP emission limit. No single HAP was more than 4.1 tons with the total HAPs at 13.77 tons.

Attachment (8) is inspection reports for the 2 emergency generators. The data didn't provide the necessary information to show compliance with the RICE MACT. The 2 emergency generators would be exempt from the RICE MACT if it can be shown that the generators are being used for less than 100 hours per year for testing/maintenance purposes. Follow up information that it is included as part of the attachment showed that the generators are indeed being used less than 100 hours per year. (42 hours for one, 38 hours for the other.)

The Company appeared to be in compliance with all other Permit Conditions for both PTI's.

MAERS Review

2016 MAERS submittal listed the following emission units:

EUPLANTNATGAS-Plant wide natural gas combustion (3500 pounds NOx, 700 pounds CO)

EUBOOTHS-Surface Coating of Wooden Steering Wheels (PTI 254-02A) (28,619 pounds VOC from paint, 12979.22 pounds from purge and clean-up, 9140 pounds from gluing, epoxy, fill and stain operations) (Permit calls it EUBOOTHS EUMISC/OPERATIONS under FGCOATING. Limit 32.2 tpy of VOC)

EU-INMOLDBOOTH-A dry filter type robotic spray coating booth. In-mold coatings are applied to the inner surface of the molds, which are then transferred to the RIM process. (PTI 284-04B)

EU-MISCMOLD-Three (3) hoods and a mold release spray booth. The 3 hoods are stations for overflow removal, de-mold and mold cleaning processes. The VOC emissions are discharged uncontrolled through the mold release spray booth stack. (PTI 284-04B) (Emissions reported as EU-INMOLDBOOTH combined with EU-MISCMOLD Coating/solvent 7571.8 pounds VOC Mold release 6821 pounds VOC, RIM

Cleaning 1539 pounds VOC) (Permit combines EU-INMOLDBOOTH & EU-MISCMOLD into FGRSTINMOLD. Limit 6.5 TPY VOC versus a total of 7.96 VOC reported in MAERs for 2016. Emission Violation?

EUPLASTICS-Injection molding operation installed in 2/1992 exempt per Rule 286 (2) (b). (246 pounds of VOC reported.)

EUshotblast-shot blast unit for zinc, aluminum and magnesium (manganese?) parts and wet dust collector installed in 1/2005 exempt per Rule 285 (2) (l) (vi)(C). (606 pounds of PM10)

EUknobpaint-hand spray booth for shift knobs and other parts installed on 1/03/2011 exempt per Rule 287(c). (Clear coat 329 total gallons. 1413 pounds VOC, applying clear coat to plastic knobs 411 pounds of VOC.)

EUSPPAINTBOOTH-spray booth for painting small parts installed on 5/01/2015. (PTI 254-02A)

(Applying coating to small parts-solvent usage 15,457 pounds of VOC, applying coating to small parts 1373 gallons (Total coatings minus waste sent off site) 7181.3 pounds.) (PTI calls it EUAPSBOOTH1. EUAPSBOOTH1 & EUAPSBOOTH2(not installed) are combined into FGAPS. 12.5 tpy emission limit vs 11.3 tpy...very close.)

All reported MAERS emissions were below emissions limits specified in the Company's 2 PTI permits except for EU-INMOLDBOOTH & EU-MISCMOLD listed under FGRSTINMOLD in PTI permit. Further review of the records showed that this was error which the Company corrected.

Post-Inspection Meeting

I held a brief post-inspection meeting with TM. I outlined that the only compliance concern was the RICE MACT regulations that applied to the 2 emergency generators. I requested that TM submit VOC coating records and any applicable information she had on the 2 emergency generators by no later than close of business on June 26th. I also mentioned the 2 exhaust vents from the dust collectors that were pointed downward and the corrosion noted on some of the roof vents as general areas of concerns. I thanked TM and the other facility personnel for their time and cooperation, and I departed the facility at approximately noon.

Compliance Summary

The Company is in compliance.

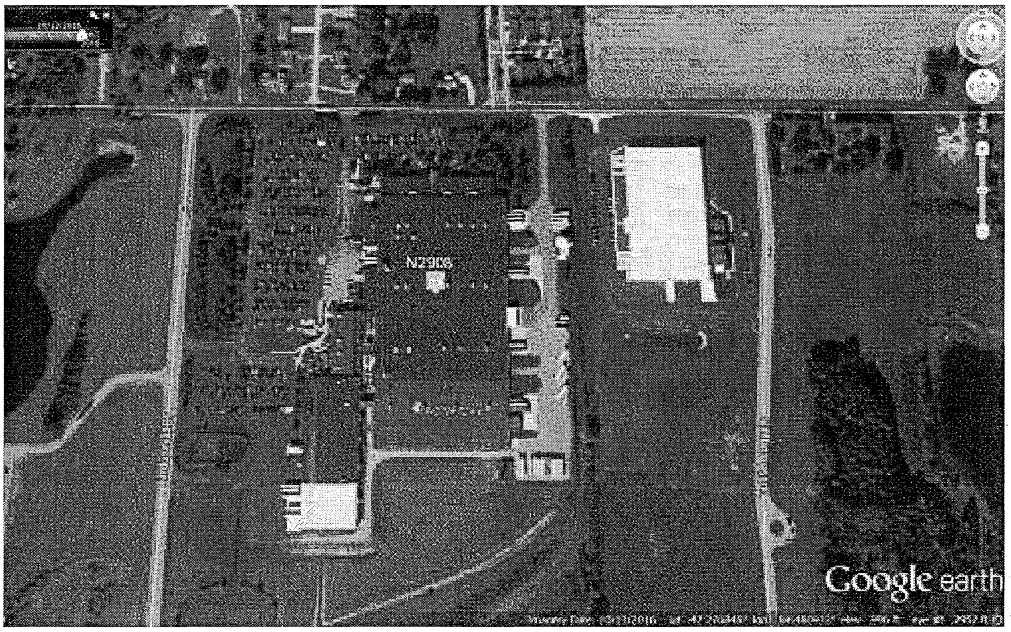


Image 1(Aerial photo) : Aerial photo October 2016

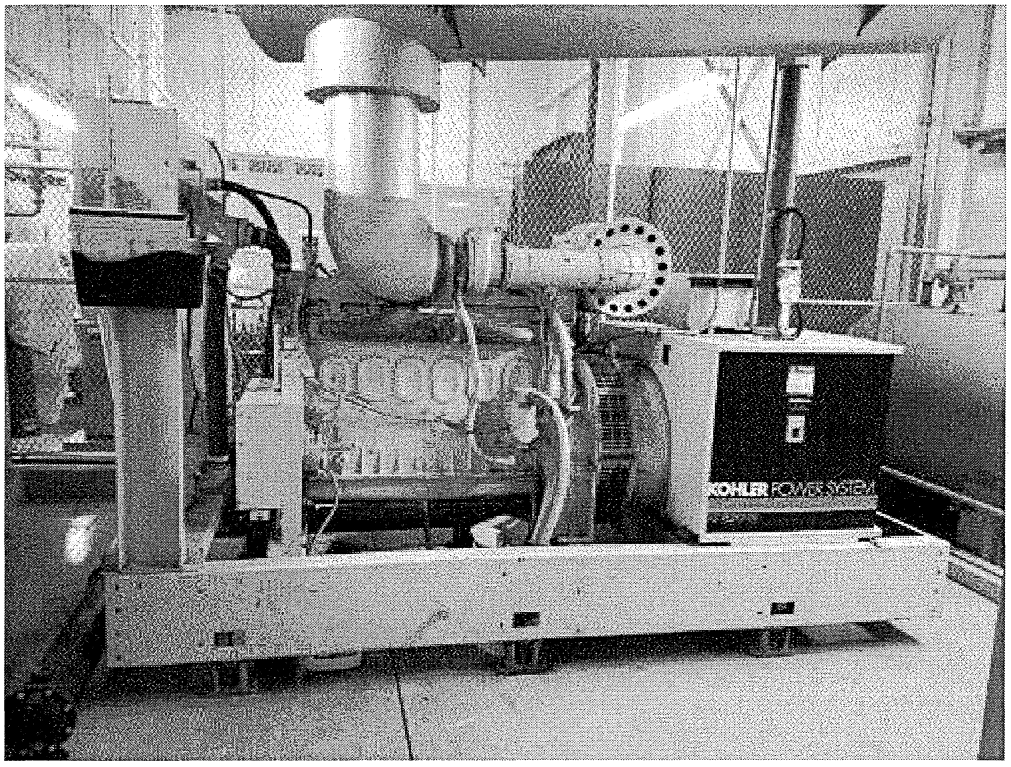


Image 2(Emergency generator) : Emergency generator with diesel fuel tank

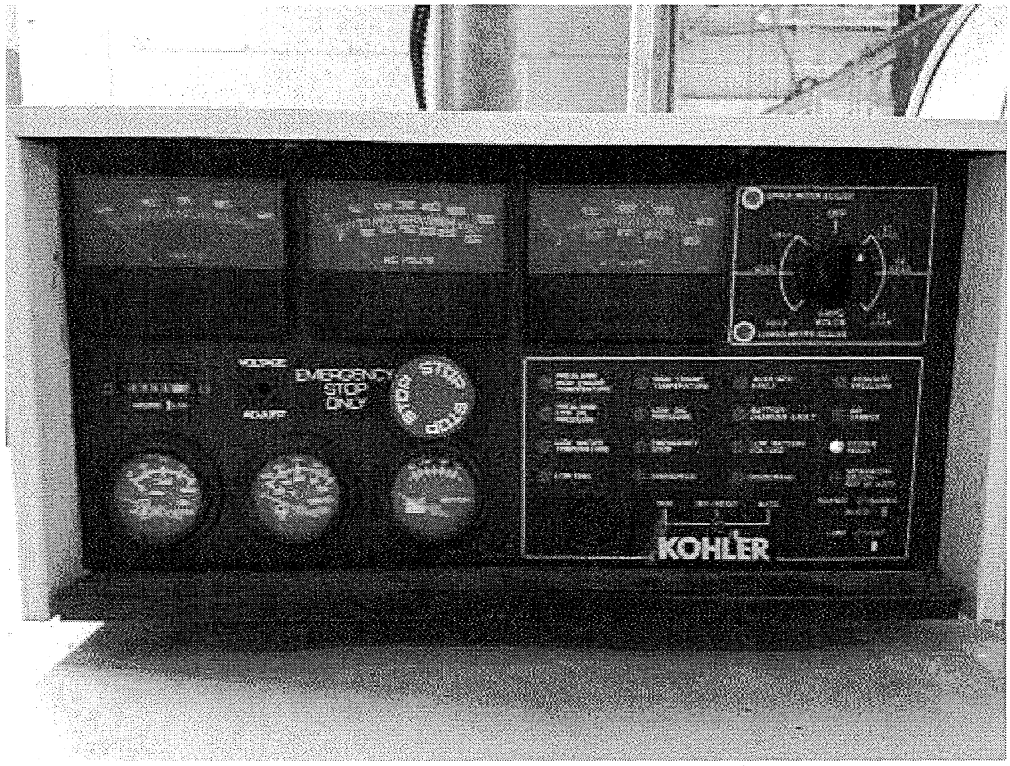


Image 3(Display panel) : Display panel on generator

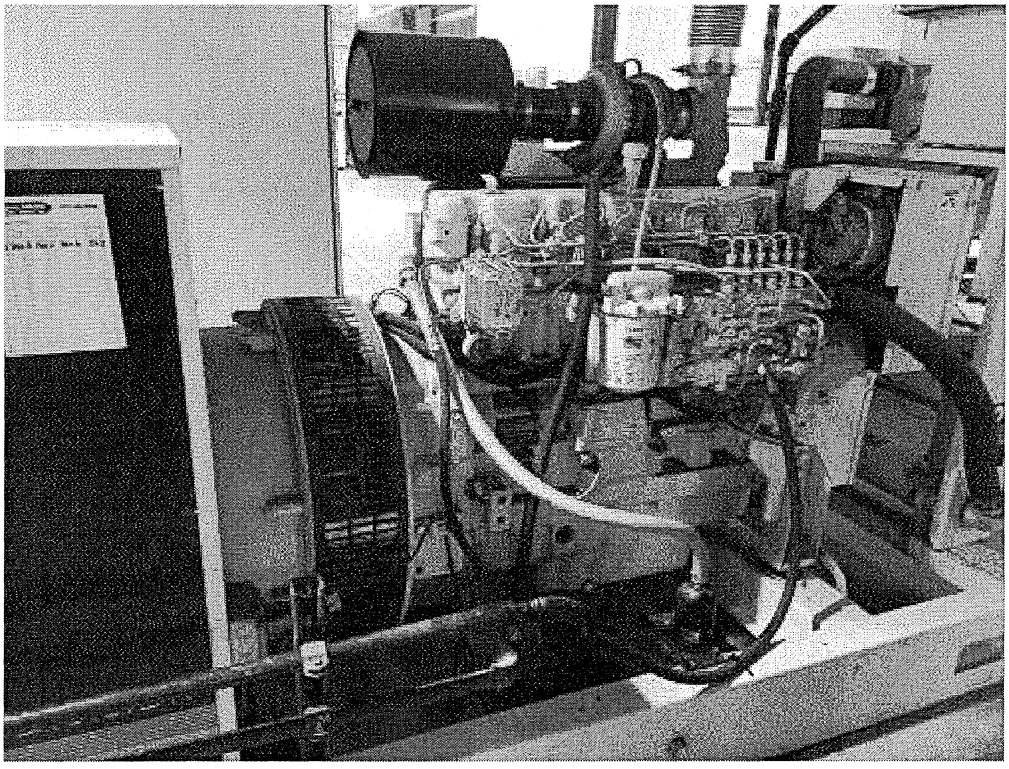


Image 4(2nd diesel generator) : 2nd diesel generator

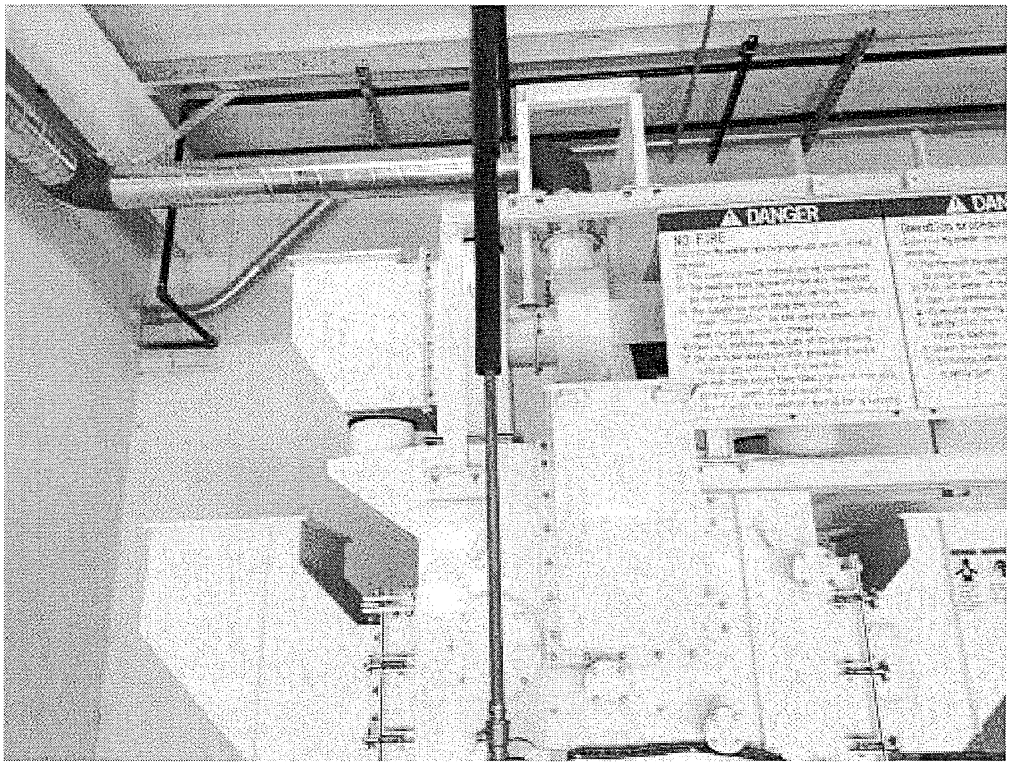
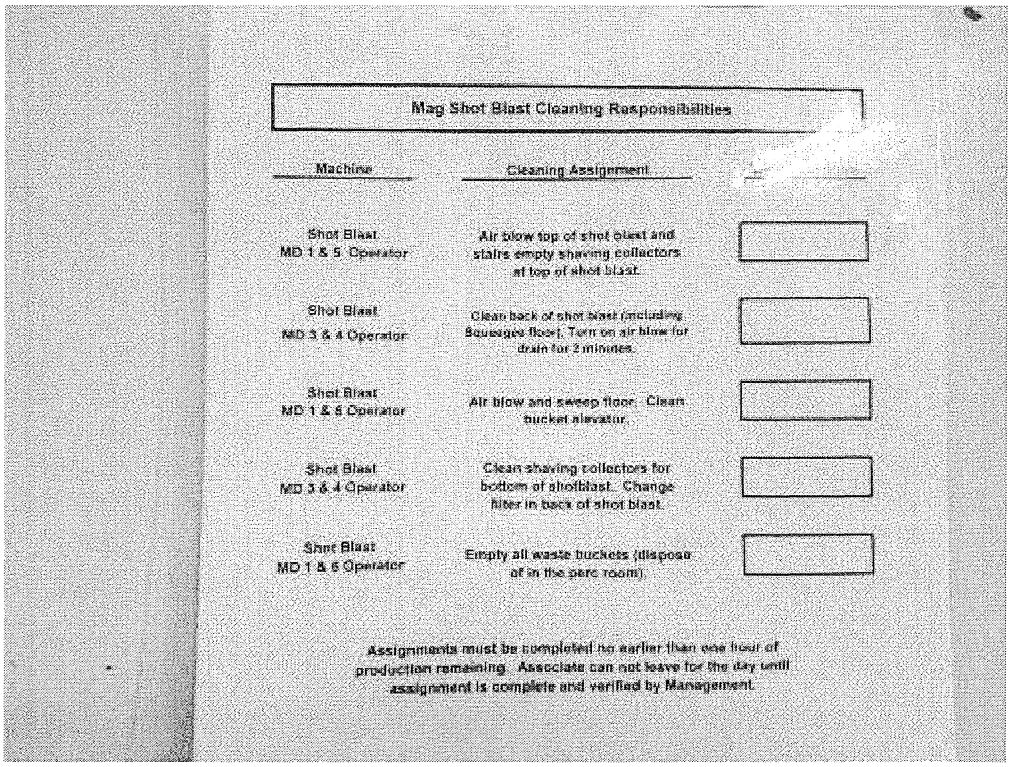


Image 5(Wet scrubber) : Wet scrubber associated with Die Cast Magnesium shotblast



Mag Shot Blast Cleaning Responsibilities

Machine	Cleaning Assignment	
Shot Blast MD 1 & 5 Operator	Air blow top of shot blast and stairs empty shaving collectors at top of shot blast.	
Shot Blast MD 3 & 4 Operator	Clean back of shot blast (including Squeegee floor). Turn on air blow for drain for 2 minutes.	
Shot Blast MD 1 & 5 Operator	Air blow and sweep floor. Clean bucket elevator.	
Shot Blast MD 3 & 4 Operator	Clean shaving collectors for bottom of shotblast. Change filter in back of shot blast.	
Shot Blast MD 1 & 5 Operator	Empty all waste buckets (dispose of in the parc room)	

Assignments must be completed no earlier than one hour of production remaining. Associate can not leave for the day until assignment is complete and verified by Management.

Image 6(Shot blast sheet) : Shot blast cleaning sheet

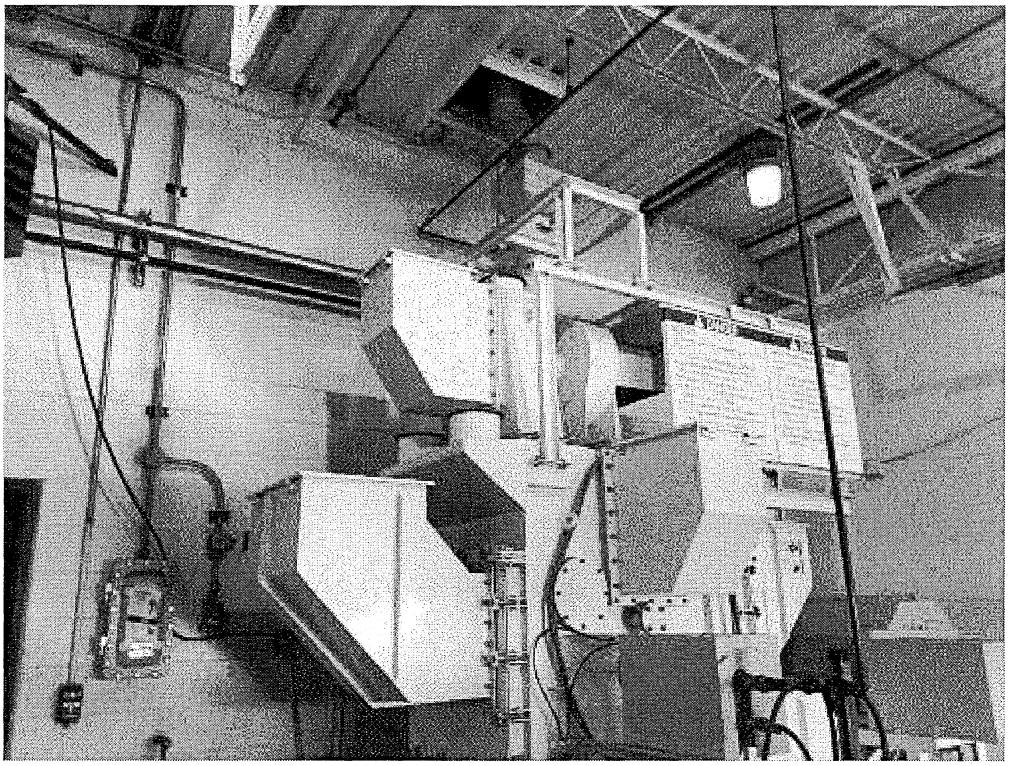


Image 7(wet scrubber) : Wet scrubber-shot blast

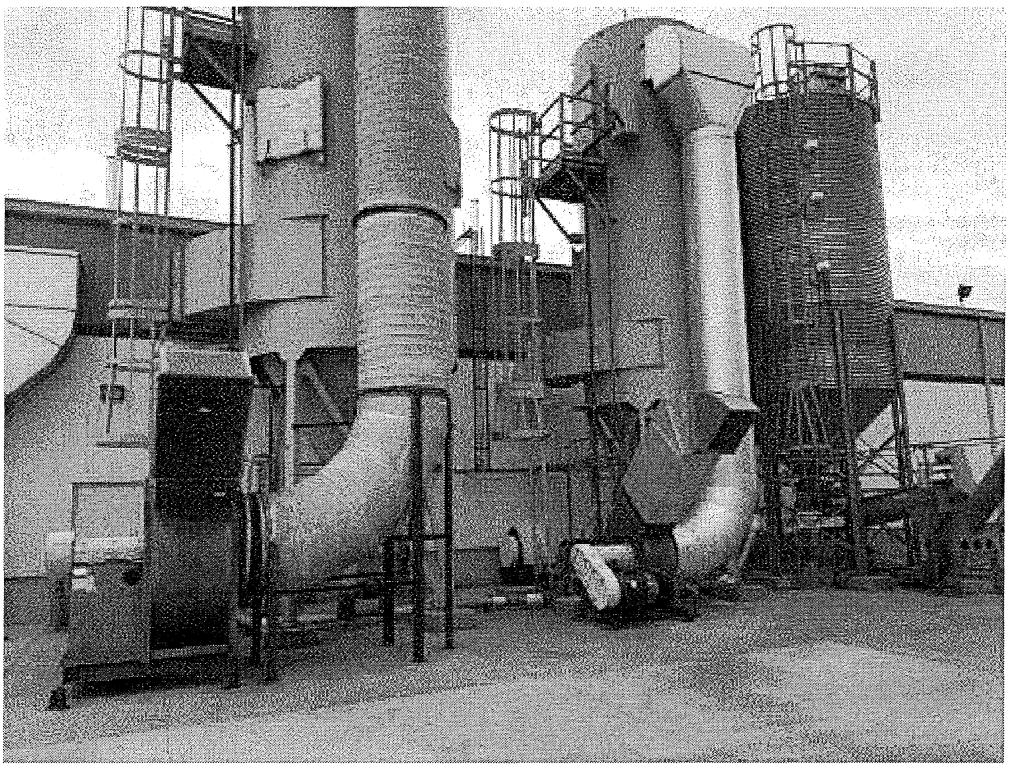


Image 8(2 dust collectors) : 2 dust collectors and silo. Left dust collectors is the Chip collector.

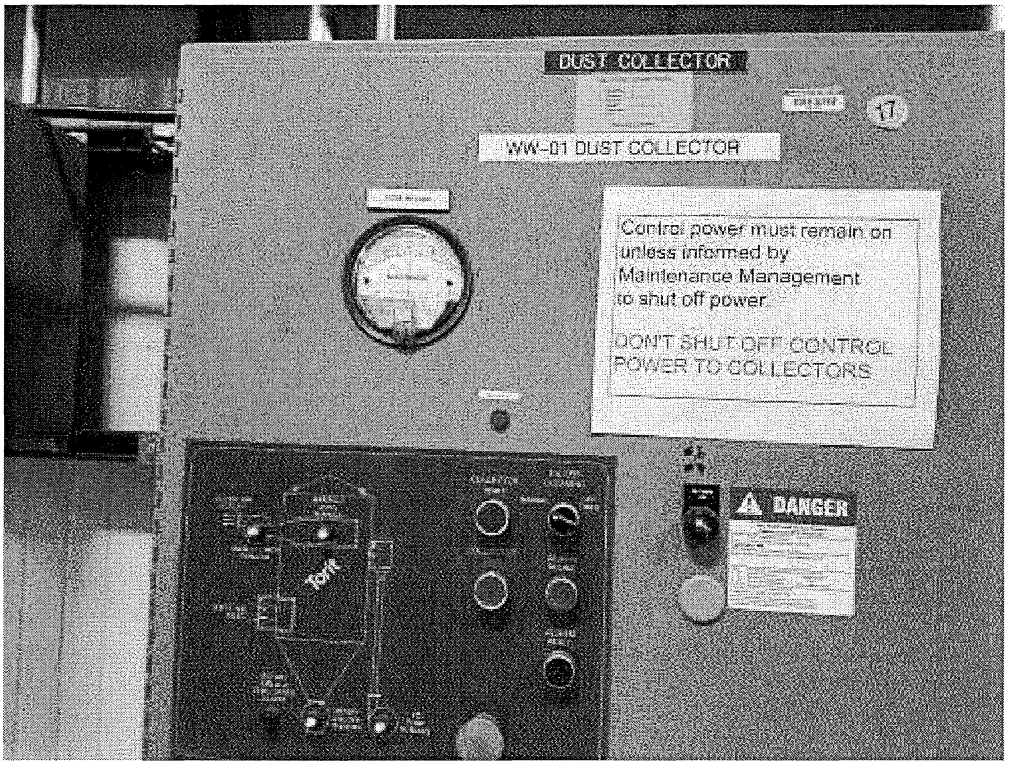


Image 9(Control Panel) : Control Panel Dust Collector

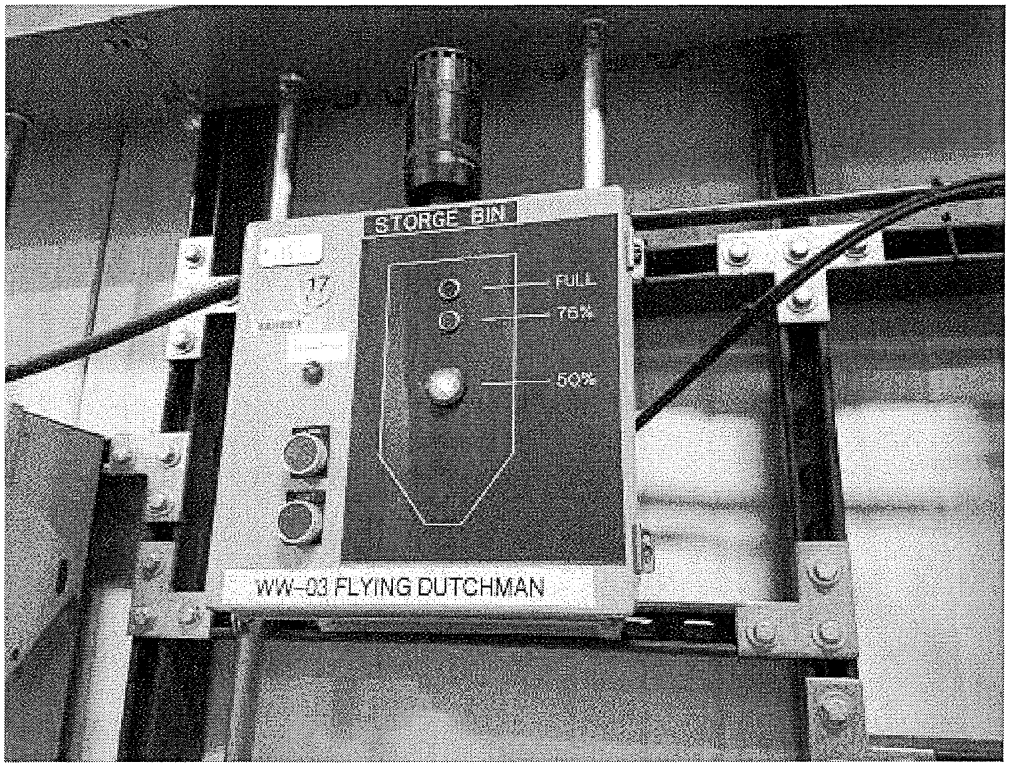


Image 10(Storage bin) : Storage bin control panel

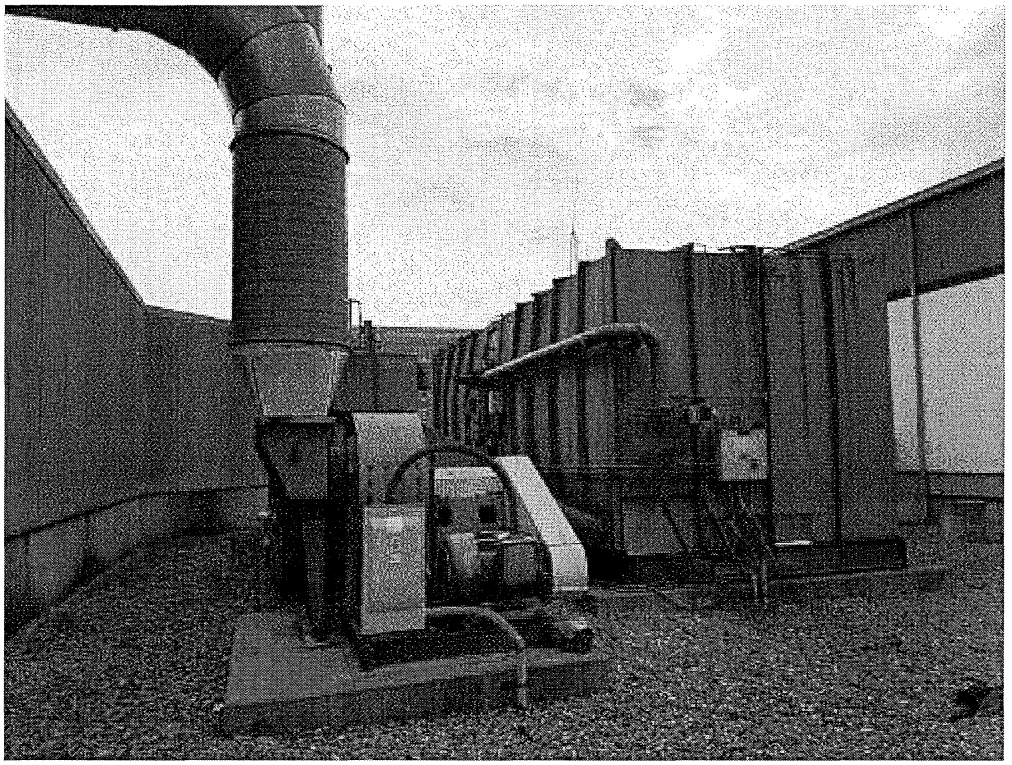


Image 11(Old RTO) : Old RTO

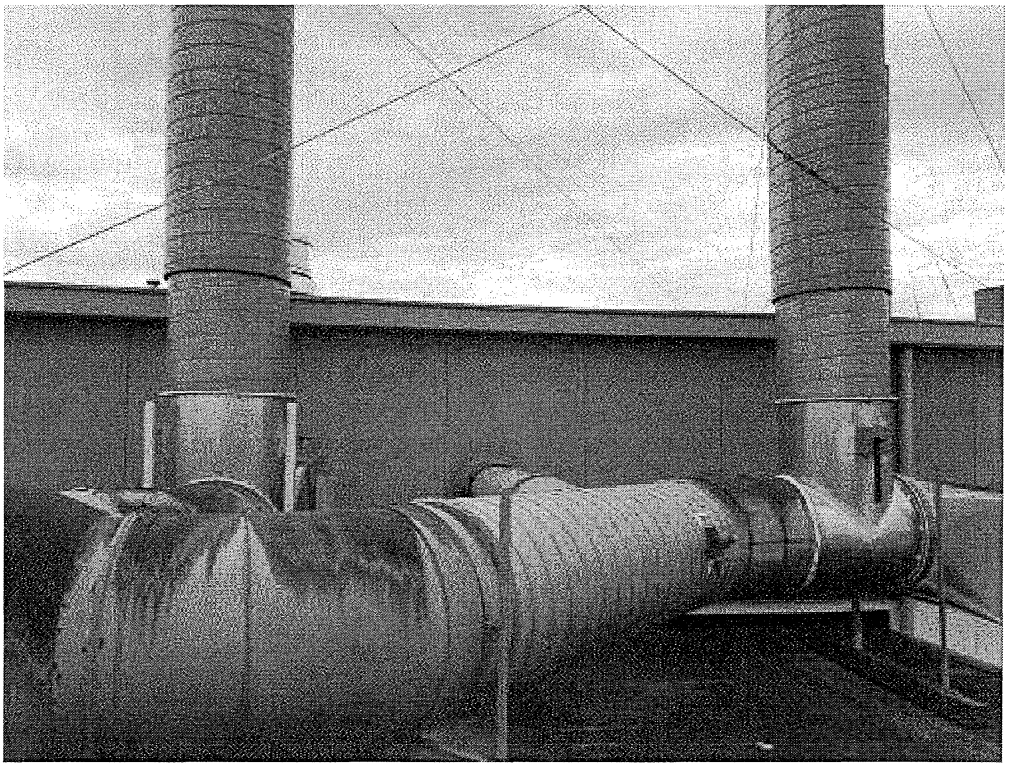


Image 12(Corrosion on ducts) : Corrosion on ducts near VOC filter box

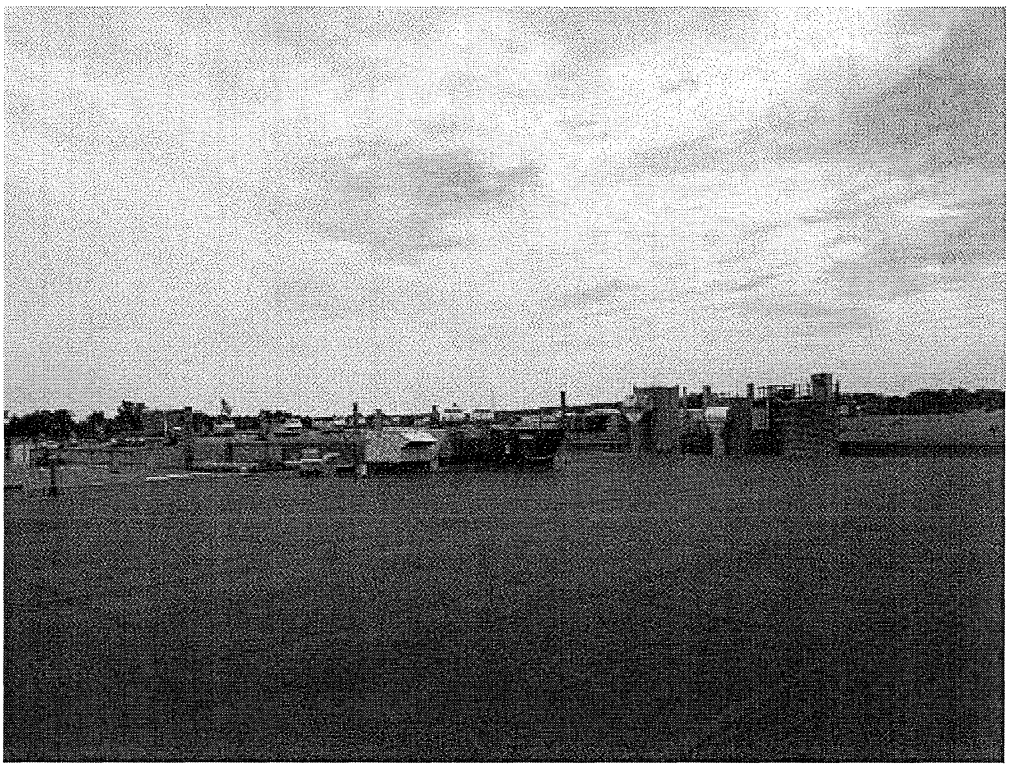


Image 13(Roof) : Roof

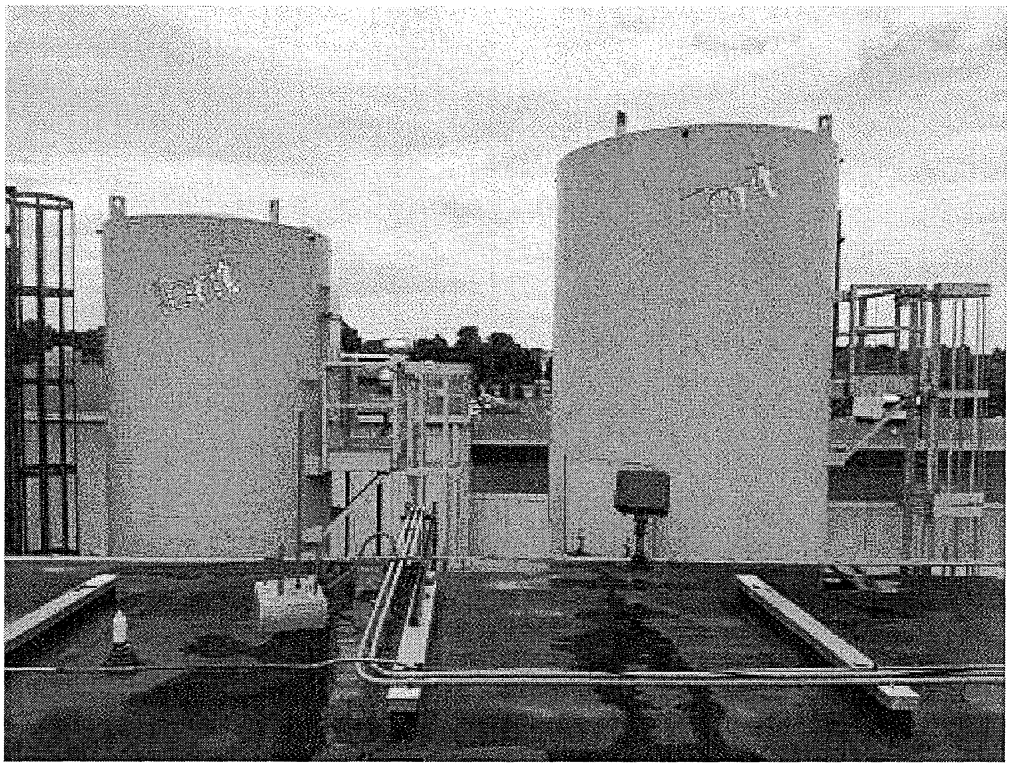


Image 14(Backside-dust collec) : Backside of dust collectors.

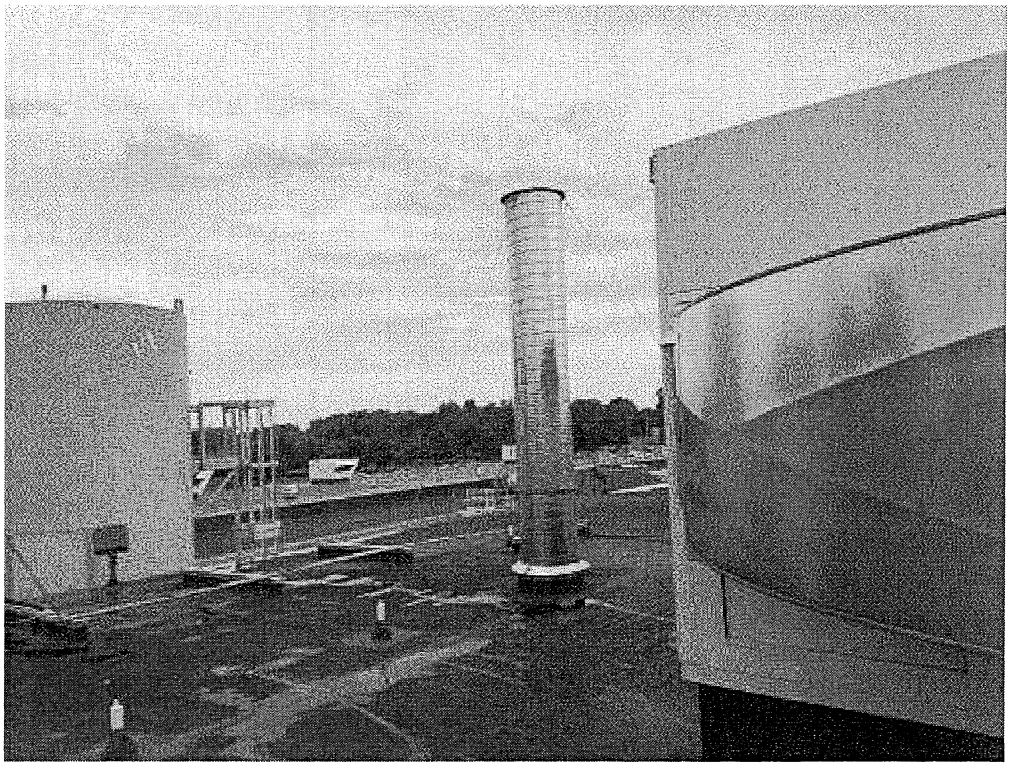


Image 15(Roof) : Roof

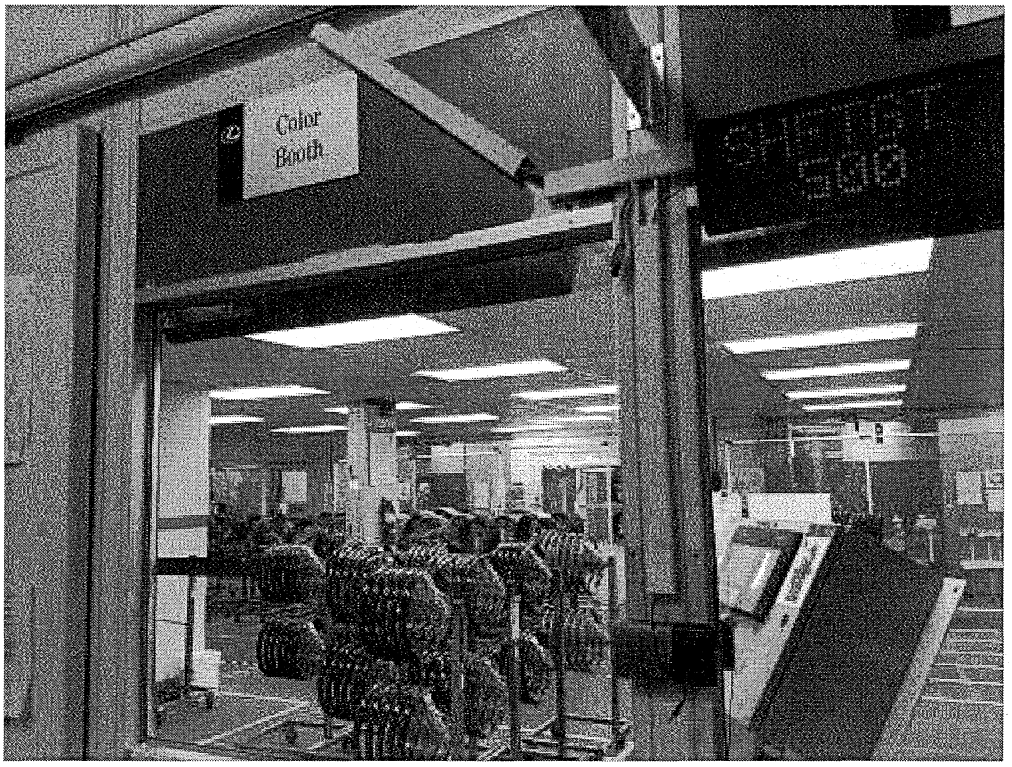


Image 16(Color Booth) : Color Booth

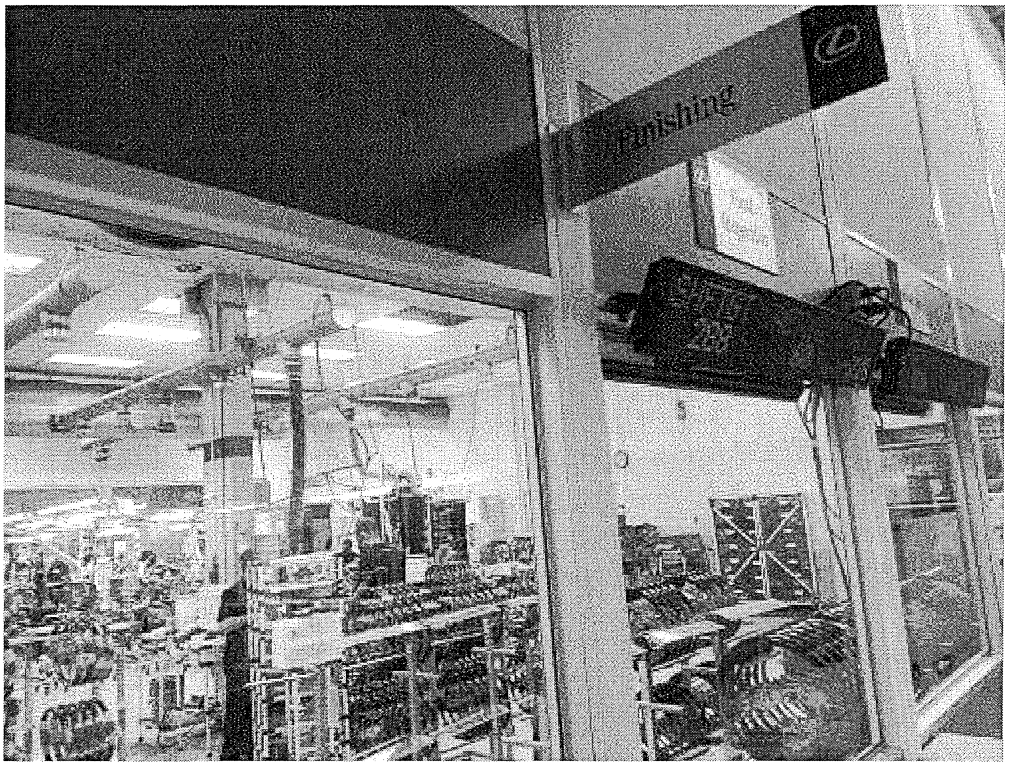


Image 17(Finishing Booth) : Finishing Booth and future location of new plastic parts coating line

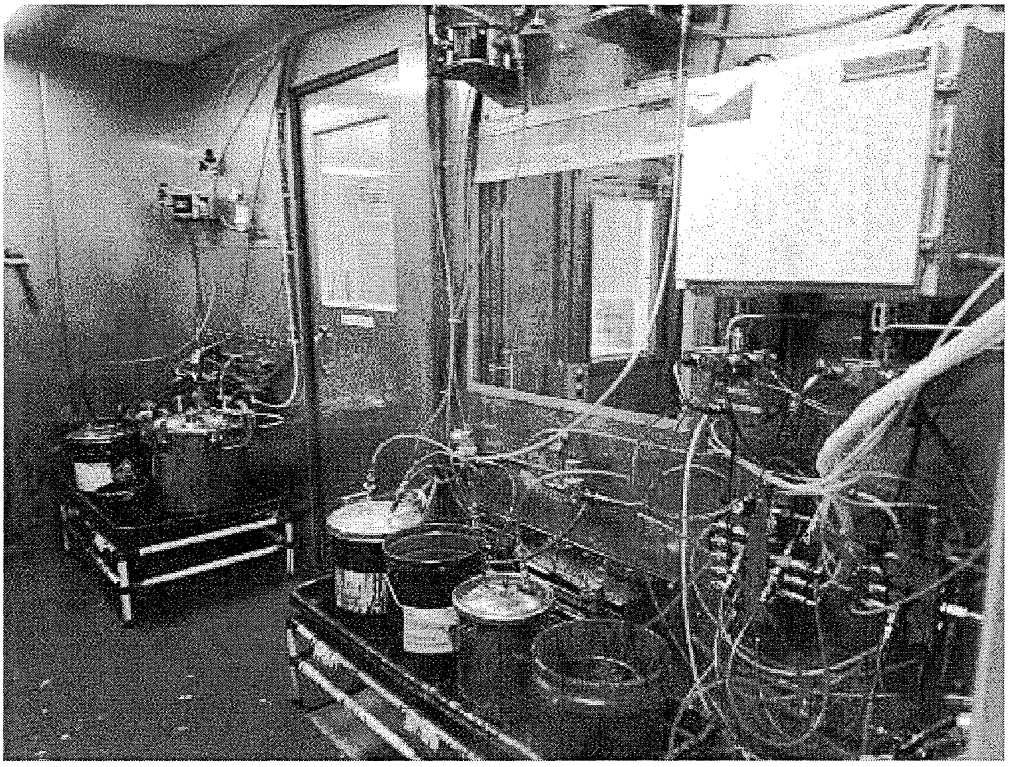


Image 18(Paint kitchen) : Paint kitchen near APS booth

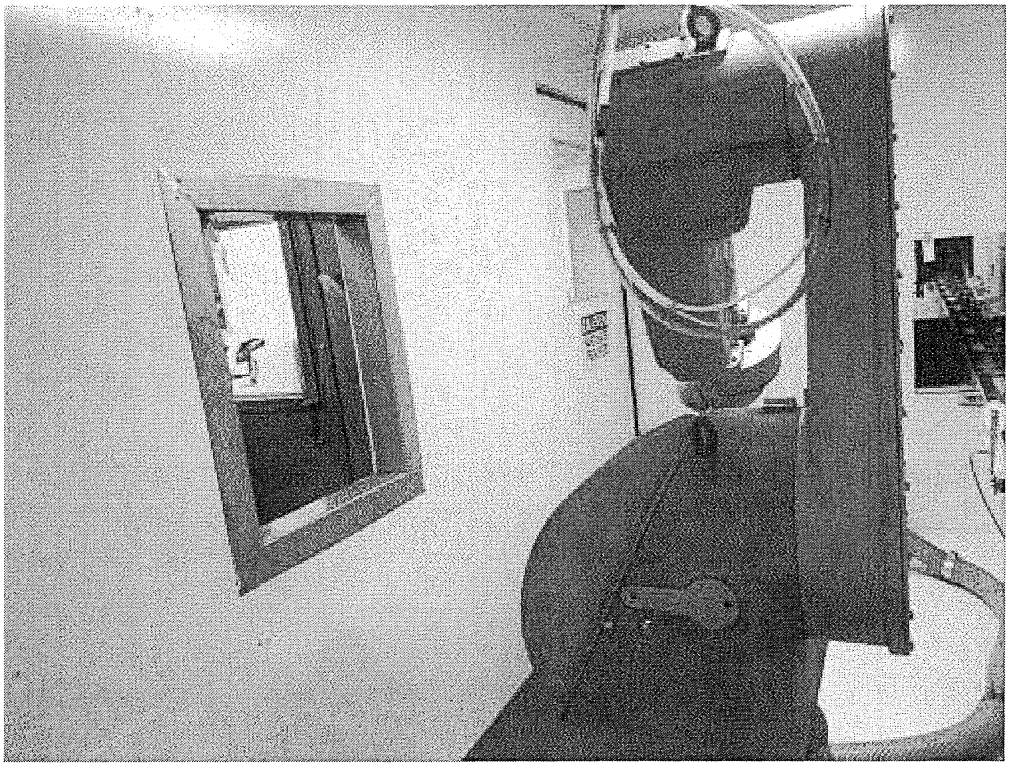


Image 19(APS Booth) : APS booth on other side of window

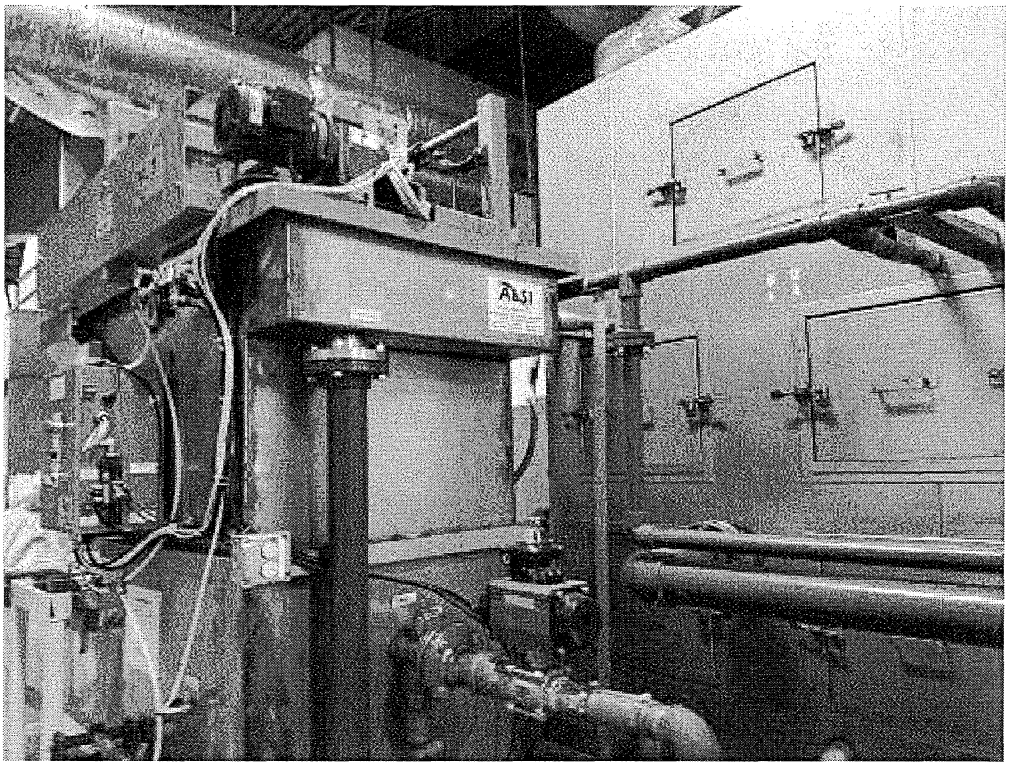


Image 20(water curtain) : Back side of water curtain apparatus behind APS booth

NAME M. Kovalchick DATE 6/27/17 SUPERVISOR