

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

N196640192

FACILITY: Michigan Automotive Compressor Inc.		SRN / ID: N1966
LOCATION: 2400 N. DEARING RD, PARMA		DISTRICT: Jackson
CITY: PARMA		COUNTY: JACKSON
CONTACT: Jill Yoxheimer , Senior Environmental Engineer		ACTIVITY DATE: 06/01/2017
STAFF: Mike Kovalchick	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Compliance inspection. The Company is out of compliance with the BOILER MACT		
RESOLVED COMPLAINTS:		

### Major Source-Full Compliance Evaluation

#### Facility Contact

Bob Kilpatrick: Environmental, Health & Safety Manager

kilpatri@michauto.com

(Jill Yoxheimer-Senior Environmental Engineer-not present during inspection.)

[www.michauto.com](http://www.michauto.com)

#### Purpose

On June 1, 2017, I conducted an unannounced compliance inspection of Michigan Automotive Compressor, Inc. (Company) located in Parma, 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 Renewable Operating Permit No. MI-ROP-N1966-2015.

#### Facility Location

The facility is located in a rural area of Parma in Jackson county. See aerial photo dated October, 2016.

#### Facility Background

The facility was last inspected on July 7, 2013 with and was found to be in compliance. The facility was also visited on April 15-17, 2014 & June 9, 2015 to observe stack testing that was being conducted.

The Company makes automotive compressors with magnetic clutches for air conditioning systems. The Company melts clean aluminum ingots in reverberatory melt furnaces controlled by fabric filter baghouses. Melted aluminum is transported to high pressure die cast machines that make the housing for the compressors. The other compressor components are machined, coated and assembled on conveyor lines. Coatings are rubber, adhesive or paint, applied by robotic applicators. Some coating lines utilize permanent total enclosures (PTE) and regenerative thermal oxidizers (RTO) as air pollution control equipment. Other activities at this facility include natural gas fired process boilers and heaters, and numerous exempt parts washers.

#### Regulatory Applicability

The entire facility operates under ROP # MI-ROP-N1966-2015.

The facility is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the PTE of a single HAP is in excess of ten per year.

EUHUBLINE1, EUHUBLINE3, EUHUBLINE4, EUHUBLINE5, EUHUBLINE6, EUROTORLINE1, and EUSTATORLINE are subject to the National Emissions Standard for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metal Parts and Products. (40 CFR Part 63, Subparts A and MMMM.)

EUFAC-AHUS, EUFAC-BOILER1, EUFAC-BOILER2, EUFAC-BOILER3, EUFAC-BOILER4, EUFAC-BOILER5, EUFAC-BOILER6, and EUFAC-HEATERS are subject to the Maximum Achievable Control Technology (MACT) standards under the NESHAP for Major Sources for Industrial, Commercial, and Institutional Boilers and Process Heaters. (40 CFR Part 63, Subpart DDDDD)

EUEMERGEN1, EUEMERGEN2, EUEMERGEN3, and EUEMERGEN4 are subject to NESHAP for Major Sources for Stationary Reciprocating Internal Combustion Engines. (40 CFR Part 63, Subparts A and ZZZZ-RICE MACT)

The emission limitation(s) or standard(s) for HAPs from EUHUBLINE1, EUHUBLINE3, EUHUBLINE4, EUHUBLINE5, EUHUBLINE6, EUROTORLINE1, and EUSTATORLINE at the facility are EXEMPT from the federal Compliance Assurance Monitoring (CAM) regulation under 40 CFR Part 64 because HAPS are addressed by 40 CFR Part 63 Subpart MMMM surface Coating of Miscellaneous Metal Parts and Products, Major Source MACT standard.

#### Arrival & Facility Contact

Visible emissions or odors were not observed upon my approach to the Company's facility. I arrived at 9:00 am, proceeded to the facility's entrance lobby to request access for an inspection, provided my identification and spoke with Bob Kilpatrick (BK)-Environmental, Health & Safety Manager of the facility. I also spoke with Aditya Sharma (AS)-Security and Safety Supervisor.

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

Both BK and AS extended their full cooperation during my visit and fully addressed my questions.

#### Pre-Inspection Meeting

BK indicated that the normal environmental contact was out on vacation (Jill Yoxheimer) but he would do his best to answer my questions.

BK outlined that the facility is operating between 6 am and 2:30 pm for the first shift and 9 pm till 5:30 am for the second shift. Both shifts are occasionally extended for overtime. The facility operates 5 days a week with overtime work on Saturdays as needed. There are currently 1150 full time employees and 250 temporary. Business is good although not as good as last year.

There are no new sources of air emissions at the facility although they are currently adding a new assembly line that will produce negligible emissions and no air permit modifications needed.

Next, we went through the list of emission units at the facility to determine which ones are currently and operating during the visit.

EUHUBLINE1, EUHUBLINE3, EUHUBLINE4, EUHUBLINE5, EUHUBLINE6, EUROTORLINE1, EUSTATORLINE are all active and operating.

Of the 4 large boilers, EUFAC-BOILER1 and EUFAC-BOILER2 were operating. EUFAC-BOILER3 was on standby. EUFAC-BOILER4 is shut down for good. It was discovered that 8 boiler tubes needed to be replaced and the expensive was determined too expensive.

Diesel fired emergency generators EUEMERGEN1, 2, 3 and 4 all remain active and are tested once per week.

RA Roll Coat Printing Operations EURA0026, 27 & 28 have been removed.

I then outlined to them on what I wanted to see during the inspection which included, the 4 RTO's, the Hub coating lines, E-Coat lines, the melt furnaces, the emergency generators, the power house and the roof.

#### Onsite Inspection

AS gave me a tour of the facility. (Note: Safety glasses, ear protection, and steel toed boots required.)

The facility is very large with approximately 1 million square feet in size. Overall, the facility appeared to be clean and very busy with almost no smoke inside the building. Odors were minimal suggesting that the coating booths were doing a good job at capturing VOC emissions. Attachment (1) shows a map of the facility.

We basically did a counter clockwise loop of the entire facility and were able to observe all the major emission units either being directly adjacent to them or via distant view.

We first stopped to look at the emergency generators. 3 of the 4 emergency generators were together. AS didn't know where the 4<sup>th</sup> one was located in the building but later confirmed that it is still being used. The generators appeared to be in excellent condition. (See photo.)

Next, we visited the powerhouses with the natural gas fired boilers were located. 2 of them were operating (#1 & #2), one was on standby(#3) with the 4<sup>th</sup> one inoperable. The active boilers all appeared to be well maintained. (See photo.)

We next visited the melt furnaces.

The following are summaries from previous inspection report that pertain to the furnaces:

*"These furnaces melt only clean aluminum and provide molten aluminum to the diecast machines for the manufacture of automotive compressors. Each furnace is equipped with hoods that duct all exhaust processes to the baghouses. There is ducted hood for the melting/cleaning process and for the skimming of slag process."*

*"The weight for each charge is measured using a floor scale located near the furnace. The scales(s) takes into consideration the weight of the cart used to hold the clean aluminum. The scales are checked every Monday for accuracy and are calibrated based on MACI's internal TS program. The weights are handwritten on a tracking sheet by the furnace operator. All of the additions to the furnace use standard weights of material for melting, flux and cleaning...each furnace is cleaned once per hour removing all metal form inside the furnace. The fluxing process removes everything that is not aluminum from the molten bath and then is skimmed off into a separate holding trough."*

EUFURNACE1(DC-0012) is permanently shut down. (See photo.)

EUFURNACE3A(DC-0013) was operating showing a temperature of 1322 degrees F. No smoke was seen. (See photo.) Fluxing or pouring was not observed.

EUFURNACE4(DC-0011) was operating. The stack zone roof temperature showed 1230 degrees F., the hold zone temperature was at 1517 degrees F., and the hold zone mold temperature was at 1374 degrees F. No smoke was observed. Fluxing or pouring was not observed.

EUFURNACE5(DC-2100) was operating. The hold zone metal temperature was 1331 degrees F., and the hold zone chamber control temperature was 1489 degrees F. Initially, no smoke was observed. Some smoke was observed later when some melt was being added to the furnace. All smoke appeared to be captured by the ventilation system. (See photos.)

We next visited the 2 baghouse filters that control the melt furnaces.

The following are summaries from previous inspection report that pertain to the baghouses:

*"The baghouses are checked weekly and there is a written log tracking form, in addition to a computer program to determine when to change out bags due to inadequate collection efficiency. Circular charts are used to continuously record pressure drop to monitor baghouse operating conditions to ensure the baghouse is operating properly. The permit requires that the baghouses are installed, maintained and operated in a satisfactory manner. Monitoring the pressure drop and the collection efficiency provides a method to meet the permit requirement."*

*"There is one magnehelic for the east side and one for the west side baghouses(s). The magnehelics are analog measurements with a needle indicator in inches of water. According to Don, they do not fluctuate very much due to the fixed speed fans....the magnehelics are checked every Monday for accuracy and there is no digital storage of any readings....the pressure measurement of each baghouse is located*

*close to the top of the baghouse. The bags are changed annually as preventative maintenance."*

The 2 baghouses are located outside the building immediately adjacent to the furnaces that are inside the building. (See photo.) Both baghouses share a common fan/stack. No opacity was seen coming from the stack and the baghouses appeared to be in excellent condition. AK didn't know where the pressure drop gauges were located so pressure drop readings were not observed.

We next visited some of the Hub coating lines.

EU-Hubline 1 consists of spray painting, overcoat and undercoat adhesive application dip tanks, conveyor lines and flash-off area. This line utilizes a water curtain to control paint over spray and pane panel filter for adhesive over spray.

EU-Hubline 3 consists of overcoat and undercoat adhesive application dip tanks, conveyor lines and flash-off area, paint spray booth for miscellaneous metal parts and cure oven. The spray booth portion is controlled by water curtain for paint over spray and dry panel filter for adhesive over spray.

EU-Hubline 4 involves coating a part with a primer, then adhesive, and then a rubber spray coating using spray robots all within a Permanent Total Enclosure (PTE).

EU-Hubline 5 is basically the same as Hubline 4.

EU-Hubline 6 involves the robotic application of a primer, adhesive, flexible rubber spray, and protective resin coating onto a magnetic clutch hub all within a PTE.

All the emissions from the various hublines are controlled by 4 RTO's.

Little or no odors were observed adjacent to the PTE's suggesting that all the VOC emissions were being properly ducted to the RTO's. The PTE were all very small enclosures for where the actual painting/adhesive/rubber application processes are taking place.

Inside the enclosures, it generally appeared dark and hard to see although robotic operation of the spray guns could be seen operating.

We next visited the 4 RTO's. Two are located outside on the Southside of the building, another outside on the SE side of the building and another outside on the East side of the building.

RTO HB-0065 controls EUHubline 1. RTO HB-3065 controls EUHubline 3. RTO HB-4065 controls EUHubline 4 & 5. RTO HB-6065 controls EUHubline 6.

First RTO we inspected with the RTO for EUHubline 6. It was operating at a temperature of 1612 degrees F.(Limit 1550 Deg. F.) The RTO appeared to be good shape and no opacity was observed coming from the exhaust stack. (See photo. Shows RTO For EUHUBLINE 4 and the one for EUHUBLINE 4 &5)

The next RTO we inspected was for the EUHublines 4 & 5. It was operating at an instantaneous temperature of 1575 degrees F.(3 hour three- hour rolling average limit of 1550 Deg. F.) The RTO appeared to be good shape and no opacity was observed coming from the exhaust stack.

The third RTO we inspected was for the EUHubline 3. It was operating at a temperature of 1600 degrees F.(Limit 1450 Deg. F.) The RTO appeared to be good shape and no opacity was observed coming from the exhaust stack. (See photo.)

The final RTO we inspected was for EUHubline 1. It was operating at a temperature of 1558 degrees F. (Limit 1450 Deg. F.) The RTO appeared to be good shape and no opacity was observed coming from the exhaust stack. (See photo.)

We next visited the E-Coat lines. (See photo.)

EU-Rotor Line 1 is an electro-deposition coating machine and repair spray coating line. This line was observed in operation during the inspection. Recordkeeping of material usage and emissions calculations are the only requirements.

EU-Stator Line consists of fourteen electro-deposition dip tanks, a bake oven, and cooling tunnel. Parts



are moved in and out via a conveyor belt. Recordkeeping of material usage and emission calculations are the only requirements. The bake oven was operating at a temperature of 360 degrees F.

Next, we accessed the roof on the NE side of the facility via stairs inside the building. (See photos.) From there, an enclosed ladder was used to access a higher roof in order to get a view of the entire roof the facility. Overall, the roof and ventilation related equipment all appeared to be in excellent shape. No smoke was observed although what appeared to be steam was coming from a few stacks. No fallout was observed on the roof. No odors were smelled. South of my position on the roof, I observed on stack that appeared to have some black paint stains on it. (See photo.) No other findings.

#### Recordkeeping/Permit Requirements Review

The required records weren't readily available at the facility since Jill Yoxheimer, the principal environmental contact, was out on leave.

I sent the following email to her on Friday June 2, 2017 requesting records and asking some questions that were outstanding from the onsite inspection:

*Jill,*

*As you probably know, I conducted an air inspection at your facility on May 1st. As a follow-up to the inspection, I am requesting you provide the following:*

- 1) RTO temperature records for the month of April, 2017 for the RTO that controls EUHUBLINE1.*
- 2) For EUHUBLINE1, all required coatings records for January through April as per ROP condition VI. MONITORING/RECORDKEEPING # 3. a, b, c & d.*
- 3) RTO temperature records for the month of April, 2017 for the RTO that controls EUHUBLINE3.*
- 4) For EUHUBLINE3, all required coatings records for January through April as per ROP condition VI. MONITORING/RECORDKEEPING # 3. a, b, & c.*
- 5) RTO temperature records for the month of April, 2017 for the RTO that controls EUHUBLINE6.*
- 6) For EUHUBLINE6, all required coatings records for January through April as per ROP condition VI. MONITORING/RECORDKEEPING # 3. a, b, & c.*
- 7) For EUROTORLINE1, all required coating records for January through April as per ROP conditions VI MONITORING/RECORDKEEPING # 1, 2, and 3.*
- 8) For EUSTATORLINE, all required coating records for January through April as per ROP conditions VI MONITORING/RECORDKEEPING # 1, and 2.*
- 9) RTO temperature records for the month of April, 2017 for the RTO that controls FGNEWHUBLINES.*
- 10) For FGNEWHUBLINES, all required coatings records for January through April as per ROP condition VI. MONITORING/RECORDKEEPING # 4. a, b, c & d.*
- 11) Record of all required visible emission readings for FGFURNANCES for the month of April 2017.*
- 12) All required records for FGFURNANCES for the month of April 2017 as per ROP condition VI. MONITORING/RECORDKEEPING #5.*
- 13) The safety data sheets for all the fluxes used in FGFURNANCES for the month of April 2017.*
- 14) Written summary on how you maintain/monitor the baghouses including what is the proper operating pressure differential for each baghouse.*
- 15) Written summary on how you are achieving compliance with the Boiler MACT.*
- 16) Written summary on how you are achieving compliance with the RICE MACT.*
- 17) Written summary on how the cold cleaners are being operated at the facility, including the type of solvents used and the current number of cold cleaners.*
- 18) Written summary explaining the various interlocking systems for the 4 RTO's at the facility and how they operate/triggered.*
- 19) Written summary explaining what you are doing to maintain/follow your air pressure differential monitoring plan for the permanent total enclosures.*
- 20) I observed one stack on the roof that appeared to have dried black paint coming down all sides of it. Please explain what caused this and how it was fixed.*
- 21) Written summary explaining the new assembly line and if there are any air quality concerns*

associated with it.

22) Written summary explaining the process on how the facility tracks coating usage for the Hub lines. (i.e. handwritten daily records at each line transferred to computer etc.)

Please email the requested information by close of business on June 12th. Let me know if you have any questions. Thanks!

I received the following reply:

*"From: YOXHEIMER, JILL [mailto:yoxheimj@michauto.com]*

*Sent: Monday, June 12, 2017 11:37 AM*

*To: Kovalchick, Mike (DEQ)*

*Cc: KILPATRICK, ROBERT; Miller, Scott (DEQ)*

*Subject: RE: Re:Records Request for Michigan Automotive Compressor Inc.-Air Inspection Follow-up*

*I will drop off the required documents via USB drive as they are too large to send by email.*

*1-13. USB drive*

*14. Baghouses pressures are checked weekly by Environmental/Waste Water associates per the TITLE V Weekly Inspection Log (blank copy on USB). Production monitors visible emissions daily and records on electronic PA sheet. Production also monitors and changes external collection bags for dust as needed. Maintenance schedules internal bag changes by an outsider vendor to be change every three years. Schedule follows a three year cycle of East baghouse, West baghouse, off year with no PM.*

*15. Boilers are inspected and serviced by outside vendors annually. They are Natural Gas fired boilers and not covered by Boiler MACT rules. (Response unsatisfactory. This compliance conclusion is not correct.)*

*16. Procedure on USB*

*17. Procedure and list on USB. List is on the form for our monthly inspections.*

*18. All four RTO's are interlocked to the machines which they are connected. If the temperature drops below 1500F, the machine will fault out discontinuing the ability to run production. For the two new RTO's for EUHUBLINE6 and FGNEWHUBLINES, they are also interlocked to the machines such that if the machines is idle for more than 30 minutes, the RTO temperature will drop to 1300F for energy savings. In addition, Security monitors the temperature of each RTO on an hourly basis via the intranet.*

*19. Pressure sensors are at each machine and interlocked to the machines to fault out if the pressure drops below the set points. In addition, Environmental associates confirm the pressure sensors at each machine on a quarterly basis with a handheld pressure gage.*

*20. The stack on the roof had a build-up coating inside the stack from several years ago. The stack was cleaned and set up on Preventative Maintenance schedule for periodic cleaning. A filter unit was also installed.*

*21. New assembly line is very similar with respect to air emissions to all other assembly lines. There are no volatile organic compounds or particulates on these lines.*

*22. Coatings are tracked daily at the point of use by hand written records on a monthly tracking sheet. Team Leaders from the area sign off on the sheets on a daily basis. Environmental associates input the data into Excel spreadsheets that calculate the required data on a monthly basis. Any changes to the forms at the Production line or Excel spreadsheets are done by Environmental Associates. Amounts recorded at the lines are cross-referenced with the inventory pulled for each chemical and department at minimum of a semi-annual basis.*

*If you need any further clarification, please let me know.*

*Thank you,*

*Jill Yoxheimer*

See Attached USB drive for requested records. Review of records received and already in the file shows compliance with all applicable requirements in ROP (besides BOILER MACT) including process/operational restrictions, design/equipment parameters, testing/sampling, monitoring/recordkeeping, and reporting. VOC emission information was consistent with what was reviewed in MAERS for 2016.

**2016 MAERS Review**

In 2016, reported emissions from the various emission units at the facilities were as follows :

EUHUBLINE1 were about 20% of the various VOC limits for both the 0110 and 0060 portion of the emission unit.

EUHUBLINE3 were about 25% of the various VOC limits for both the 3060 and 3110 portions of the emission unit.

EUHUBLINE6 were about 11.5% of the VOC limit.

EUROTORLINE1 were about 5% of the VOC limit.

EUSTATORLINE were about 4.5% of the VOC limit.

FGNEWHUBLINES were about 3% of the hourly VOC limit using stack test as the basis.

FGFURNACES were about 8% of the grains/dscf particulate limit using stack test as the basis.

Total facility emissions were 13 tons of NOx, 11 tons of CO, 7.2 tons of VOC, and 5.8 tons of PM10.

**July through December 2016 Subpart M MMM Report Review**

The report looked at compliance for the General Use Coating category, the Rubber to Metal Coating category and Extreme Performance category. The Company was well under the limit for all of the categories.

For the first category, reported emissions were 0.94 lbs of HAP/gal of coating solids (limit 2.6).

For the second category, reported emissions were 4.23 lbs HAP/gal of coating solids (limit 37.7).

For the third category, reported emissions were 1.344 lbs HAP/gal of coating solids (limit 12.4).

The report further stated that the Company claims permanent total enclosure (PTE) for its capture systems on the five rubber to metal adhesive coating process: EUHB-0060, EUHB-3060, HB-5060, HB-6060 and with its extreme fluoropolymer coating process: HB-4100, HB-5100, and HB-6100.

No emission exceedances were reported due to about 27 hours in total of shutdowns of the four RTO's in the July to December timeframe due to interlocks that automatically shut down production if the temperature drops below the permitted limit.

**TESTING REVIEW**

The Company's ROP required variety of stack tests to be performed.

The RTO associated with EUHUBLINE6 was tested on June 9, 2015. The test results showed compliance for VOC destruction efficiency. A new test is required every 5 years.

The RTO associated with FGNEWHUBLINES(Hub lines 4 & 5) was tested on April 15, 2014. The test results shows compliance for VOC emission rate, VOC destruction efficiency and VOC capture efficiency. A new test is required every 5 years.

The Baghouse filter system for FGFURNANCES was required to be tested for PM, PM2.5 and PM. It was tested on April 17, 2014. The test results showed compliance. A new test is required once every 5

years.

### Post-Inspection Meeting

I held a brief post-inspection meeting with BK and AS. I indicated that I didn't find any compliance concerns. I mentioned that I would be sending a follow-up email to request records and other information that were readily available during the inspection. I also mentioned that the Company might want to look into the possibility of seeking an Opt-out permit and voiding their existing T5 permit since their actual emissions are low. I thanked them for their time and cooperation, and I departed the facility at approximately 11:20 am.

### Compliance Summary

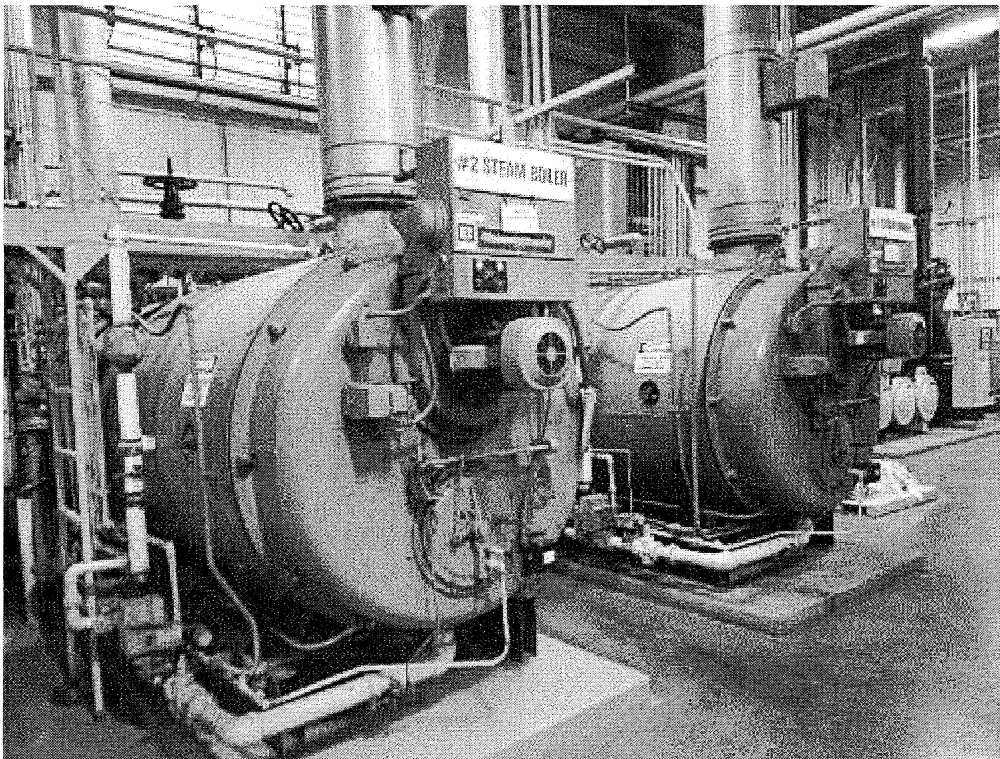
The Company is in compliance with their ROP with the exception of the federal BOILER MACT requirements. A Violation Notice (VN) will be sent to the Company requesting a compliance plan to resolve the alleged violation.



Image 1(aerial photo) : aerial photo

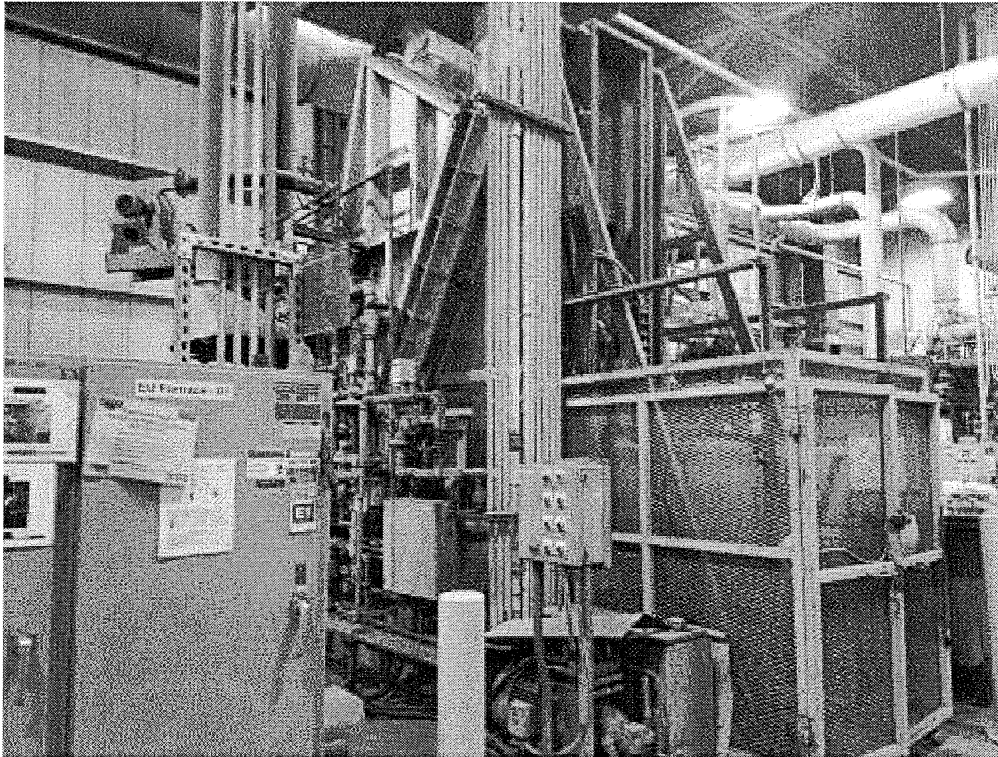


**Image 2(Emergency generators)** : Some of the emergency generators

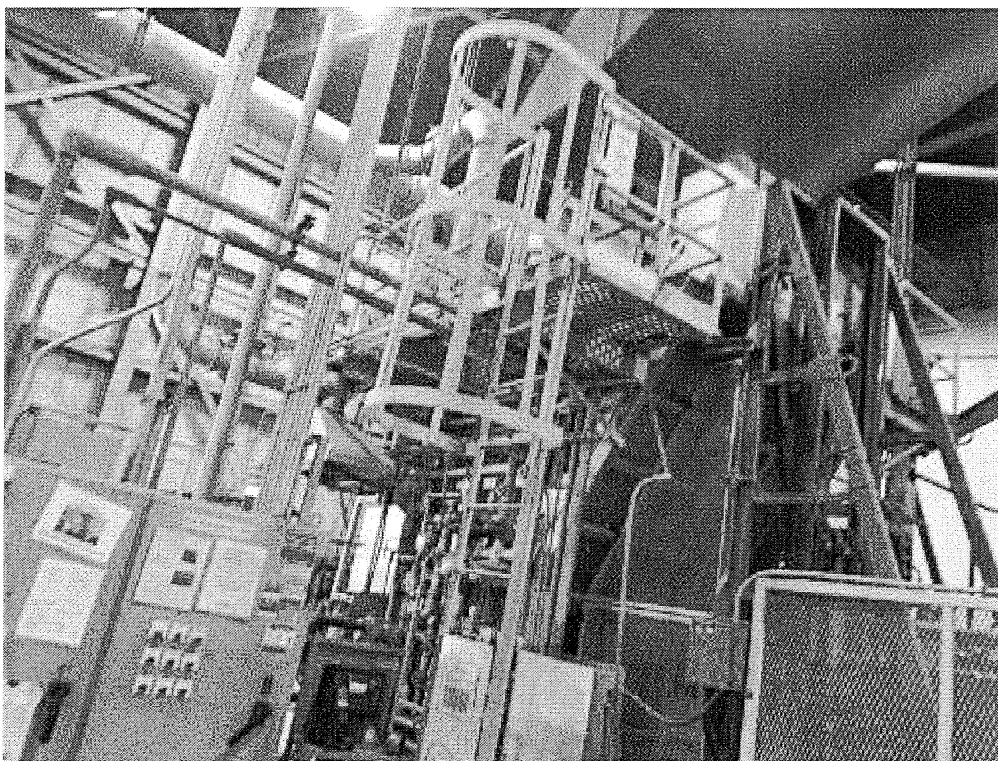


**Image 3(Boilers)** : Boilers (from right to left 1, 2, 3)





**Image 4(DC-0012)** : Shutdown Furnace DC-0012



**Image 5(DC-0013)** : Furnace DC-0013

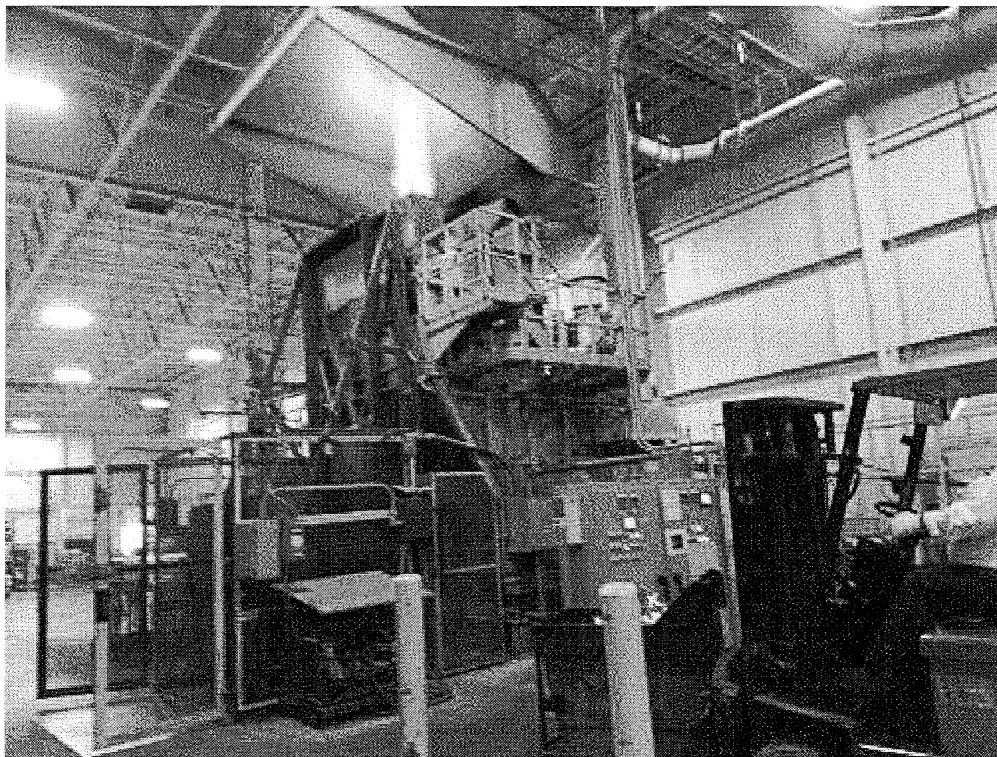


Image 6(DC-2100) : Furnace DC-2100

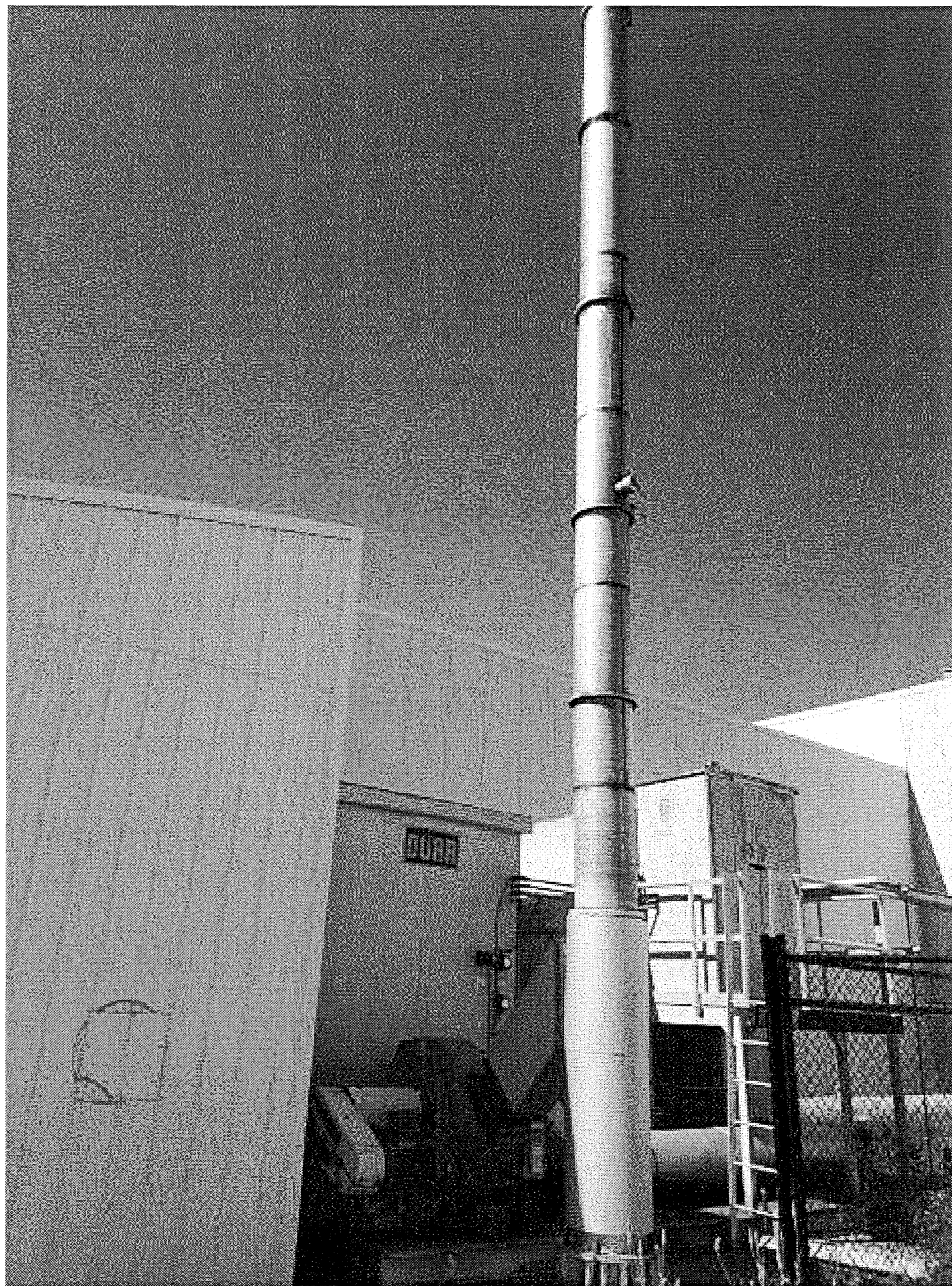


Image 7(6 and 4 & 5) : RTO for EUHUB 6 and RTO for 4 & 5





**Image 8(RTO 3) : RTO for EUHUBLINE 3**



**Image 9(RTO 1) :** RTO for EUHUBLINE 1

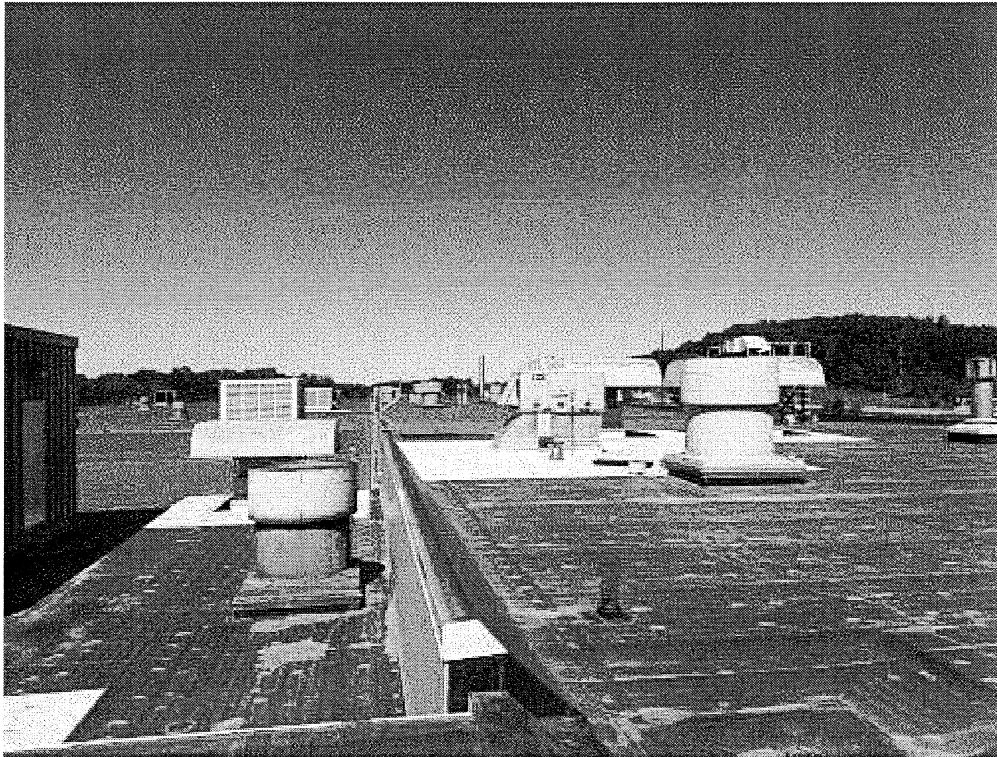


Image 10(E-Coat) : E-Coat

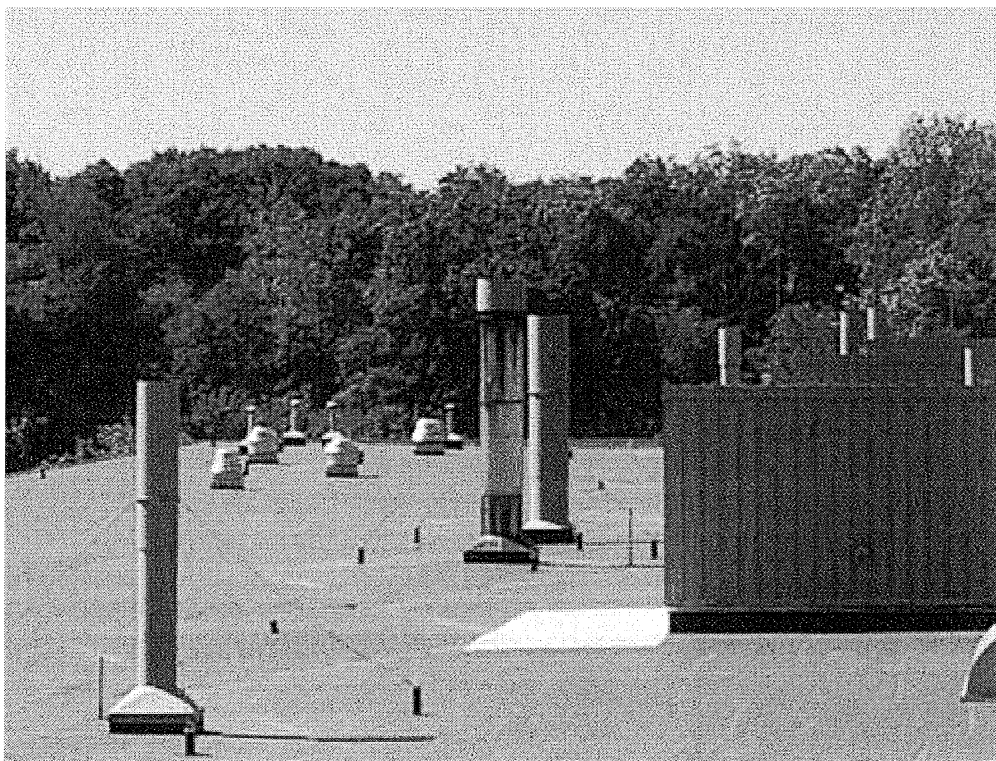


Image 11(Roof 1) : Roof 1





**Image 12(Roof 2) :** Roof 2



**Image 13(Paint covered stack) :** Paint covered stack

NAME M. Kovalchuk

DATE 6/14/2017

SUPERVISOR 