

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

N803543646

FACILITY: CAPITAL REGION AIRPORT AUTHORITY	SRN / ID: N8035
LOCATION: 3170 WEST STATE RD, LANSING	DISTRICT: Lansing
CITY: LANSING	COUNTY: CLINTON
CONTACT: Ron O'Neil , Director of Maintenance	ACTIVITY DATE: 02/28/2018
STAFF: Julie Brunner	COMPLIANCE STATUS:
SUBJECT: Scheduled inspection of the Capital Regional Area Authority (CRAA)	
RESOLVED COMPLAINTS:	

On February 28, 2018, I conducted a scheduled inspection of the Capital Regional Airport Authority (CRAA) in Lansing. The last compliance inspection of the facility was on April 7, 2016.

Contacts:

Ron O'Neal (CRAA), Director of Maintenance, 517-886-3729, roneil@craa.com
Kevin Miller (CRAA), Airfield Mgr, 517-886-3725, kmiller@craa.com

Facility Description:

CRAA operates the Capital Region International Airport. Domestic and international flights arrive and depart the airport daily. Waste from in-coming international flights is not allowed to be imported into the country and is incinerated on-site. The waste is regulated as Animal and Plant Health Inspection Section (APHIS) waste. The airport terminal is heated by two (2) natural gas-fired boilers. CRAA also has nine (9) diesel fuel-fired and natural gas-fired emergency engines for facility backup power.

The airport facility is located off of West Grand River Avenue on the northwest side of Lansing in a mixed-use area with residential, commercial and light industrial areas.

CRAA is a minor source of any regulated air contaminants including hazardous air pollutants (HAPs) and not currently subject to the Title V Renewable Operating Permit (ROP) program. CRAA has one active Permit to Install (PTI) No. 118-08. PTI 118-08 is for the international waste incinerator. The emission unit on the permit is defined as follows:

Emission Unit ID	Emission Unit Description
EUINCINERATOR	Model 200-CA Destructor Waste Incinerator Natural Gas-Fired Burn Rate: 100-200 lb/hr Maximum Charge: Burn Rate Divided By Three

Review of Applicable Regulations:

The following is a review of federal standards for the diesel fuel-fired and natural gas-fired emergency generators and the incinerator at the facility.

The diesel fuel-fired emergency generators may be subject to 40 CFR 60, Subpart IIII. Listed below is some of the applicability requirements for reference.

40 CFR 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

The natural gas-fired emergency generators may be subject to 40 CFR 60, Subpart JJJJ. Listed below is some of the applicability requirements for reference.

40 CFR 60, Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.

(6) The provisions of §60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.

40 CFR 63, Subpart ZZZZ applies to the reciprocating internal combustion engines (RICE) located at CRAA. The emergency generators are all RICE except for the portable generator. Listed below is some of the applicability requirements for reference.

40 CFR 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

The international waste incinerator (EUIINCINERATOR) is affected by Commercial and Industrial Solid Waste Incineration Units (CISWI) Regulations (Proposed 80 FR 3018; January 21, 2015. Subpart DDDD starts on page 3056). The Commercial and Industrial Solid Waste Incineration (CISWI) Units Emission Guidelines (EG) were updated on June 23, 2016. This EG requires each CISWI unit subject to the standards in 40 CFR 60, Subpart DDDD to obtain a Title V - Renewable Operating Permit (ROP) for the affected source. In addition to obtaining an ROP, the EG will require owners or operators of CISWI units to submit to the department a final control plan, waste management plan, and initial, semi-annual, and annual compliance reports to name a few of the requirements. The regulation and all the requirements can be found at the following link: <http://www.ecfr.gov/cgi-bin/text-idx?SID=2b47922fadd116dba6c875af9fce20c8&mc=true&node=sp40.8.60.dddd&rgn=div6>

An EG is not enforceable by itself. It needs a state or federal plan to be enforceable. For the state plan, it will be going out for public comment with the public hearing scheduled for March 15, 2018. The rules are on track to be final by September 2018. Once the rules are in effect, CRAA will need to have an ROP application submitted or they will be out of compliance.

Applicability (40 CFR 60, Subpart DDDD) –

CISWI units in the “incinerator” subcategory commenced construction on or before November 30, 1999 OR between November 30, 1999 and on or before June 4, 2010. An incinerator is any furnace used in the process of combusting solid waste for the purpose of reducing the volume of the waste by removing combustible matter and a CISWI is a distinct operating unit of any commercial or industrial facility that combusts any solid waste as defined by 40 CFR part 241. These definitions apply to CRAA incinerator which is a CISWI unit in the small remote incinerator, energy recovery unit, and waste-burning kiln subcategories that commenced construction on or before June 4, 2010.

Michigan Air Emissions Reporting System (MAERS):

The facility is not required to report to MAERS.

Inspection:

Arrived: 9:00 am

Departed: 11:15 am

Weather: 48°F, wind SW @ 9 MPH, UV 0 Low

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

I was met by Mr. Kevin Miller (Airfield Mgr) and escorted to the building that houses the incinerator. (Ron O’Neal was tied up and was not on-site during the inspection.) I briefly provided an overview of the inspection process and the facility operations were discussed.

International Waste Incinerator, PTI 118-08:

The incinerator is located in a small metal building on the north side of the airport. The building is heated with electric heaters. Labeled 2-wheeled carts with lids are lined up with the waste to be burned. A scale, log books, and Operation and Maintenance (O & M) manuals are located in the building.

CRAA takes waste from other airports. CRAA received approval in September 2015 from DEQ-RRD and in August 2015 from Clinton County to take waste from other airports. (Copies of the waste importation and letter of consistency for airport APHIS waste, Waste Data System Number 494983 were obtained with the last inspection.) CRAA started taking waste from other airports in November of 2015. AV Flight is the waste hauler and operator of the incinerator. The waste defined as APHIS meets the conditions of the permit.

Currently CRAA is approved to pick up APHIS waste from the following airport locations:

Grand Rapids – Amway, Signature Flight Support, Steelcase
Kalamazoo/Battle Creek - Duncan Aviation, Hinman Company
Pontiac/Oakland - Pentastar Aviation
Saginaw - Dow Chemical
Ypsilanti – AV Flight Willow Run
Lansing

The incinerator is vertical with a lower chamber for burning the waste and an upper chamber for the afterburner control of exhaust gases from the burning. To operate, both chambers are heated at the same time to 1600°F which takes about an hour. Then the operator opens the door and throws the bag of waste in the lower chamber. Temperatures in the incinerator can get up to 2300°F. After the waste is finished burning in the lower chamber, the upper chamber stays on for 4 to 6 hours after.

The incinerator was operating at the time of inspection. The burn was started at 9:00 am. The temperature gauge on the incinerator was measuring 1970°F. A minimum temperature of 1600°F is required to be maintained in the secondary chamber (upper chamber afterburner) per special condition (SC) 1.5. The incinerator was operating in compliance with SC 1.5.

From the instrumentation on the incinerator, the temperature history can be downloaded electronically but not easily. It took over 30 days to get me the temperature records as Loy Instruments has to be contacted to download the information from the controller. The records show that generally the afterburner operates at temperatures greater than 1600°F but they dip briefly when the incinerator door is opened to introduce waste to be combusted. A better system to track temperature and record the information is needed. The afterburner appeared to be installed, maintained and operated in a satisfactory manner per SC 1.6.

The volume of waste combusted can be up to 10 bags per day depending on what is received. It takes approximately 2.5 hours to burn 66 pounds of waste (roughly 60-100 pounds equal 8 hours of operation). The maximum the waste can be held by the flight crew is 72-hours. Once the waste is received at the incinerator building, it can only be held for 72-hours before burning.

The incinerator is not to exceed the following burn rates per SC 1.2:

Waste Type	Description (See Appendix A)	Burn Rate (pound/hour)
0	Trash	200 (200/3=66.7)
1	Rubbish	200 (200/3=66.7)
2	Refuse	145 (145/3=48.3)
3	Garbage	125 (125/3=33.3)

A copy of the "CRAA International Garbage Incinerator Log" was emailed after the inspection. The highest weight of a garbage unit that was processed was 50.3 lb. It was burned on 11-27-17. Burning is staggered throughout the day so that no more than 66 lbs is combusted at any one time. The waste type is not defined on the logs, but a note at the bottom of the logs indicates that the bags cannot weigh more than 66 pounds. No exceedance of the hourly weight limits was noted in the logs.

The operator removes the ash from the bottom of the incinerator by shovel, puts it in a bag that is in a 55-gallon metal can, and transfers the closed bag to a larger container with a lid labeled "International Ash". A pick up truck takes the ash out for disposal every 1 to 2 months. The ash goes to Granger at Wood Street for disposal.

The ash is tested once per year. The parameters tested were arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. All parameters were below detection except for barium at 1.6 mg/L and chromium at 27 mg/L in the TCLP extract. The analysis was a leach test using method EPA 3005A/EPA 6020A.

Appendix B – Operation and Maintenance Guidelines (PTI 118-08):

There is annual training of all operators given by the USDA on prohibited items and CRAA updates programs before training. There are currently eleven operators (AV Flight) trained. The last training was done on December 7, 2017.

In Appendix B, No. 10 is the requirement for quarterly inspections to check and service all equipment. The incinerator is inspected once per year by Joseph Day for mechanical and Loy Instrumentation for electrical. Loy calibrates the temperature gauge once per year as part of the electrical inspection. The biggest maintenance issue according to Kevin is the thermal couples. Spare parts such as thermal couples are kept on-site. Annual inspections are regularly completed, but the quarterly inspections have been a little inconsistent.

Appendix C – Waste Management Plan (PTI 118-08):

1. Containers – closed. 6 mil bags – yellow, labeled "International Trash Only". The ash bags are 5 mil, puncture resistant, and black. The internal trash is transported in containers labeled "Regulated Garbage" and collected by the waste hauler (AV Flight) from the airports.
2. Spill containment and adsorbent material are in the building. The Log of Spills is blank because there have been no spills in the building.
3. Locked building, and signs posted on door.
4. No prohibited waste.

The building that houses the incinerator is well kept and clean. All waste and ash from the incinerator is in closed containers. The floor is clean of any debris and the operation appears well organized.

Facility Heat

For the main terminal of the airport, heat is provided by two (2) identical 8.2 MMBtu/hr natural gas-fired boilers located in a separate room beside the baggage claim area. The boilers were installed in 2002 and were manufactured by Johnston Boiler Company. The date of manufacture for the boilers is 2002. One boiler is operated at a time with one on stand-by.

Mike Forster (maintenance/operations) walked me through the boiler room. The boilers are inspected every January to February by Joseph Day. The state inspection is on a 3-year cycle.

The boilers were re-built in 2010 (refractory) and Boiler #2 was redone in 2012 due to cracking. The boilers exhaust out the roof, straight up – approximately 6 feet above the roof. The roof height is ~ 20 feet.

Boiler No. 1 was not operating at the time of inspection (on standby). Boiler No. 2 was operating, and it modulated between 5% to 100% of load. Every two (2) weeks the boilers are switched from operating to standby.

The boilers are too small (<10 MMBtu/hr) to be subject to 40 CFR 60, Subpart Dc - New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units. The natural gas-fired boilers are not subject to 40 CFR 63, Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources because they meet the definition of a gas-fired boiler.

The boiler(s) meet the requirements of exemption from permitting Rule 282(2)(b)(i).

Emergency Generators

There are four (4) diesel fuel-fired, four (4) natural gas-fired, and one (1) portable diesel fuel-fired emergency generator on-site.

The generators are tested once per month and serviced once per year. The following information for the generators was obtained.

- a. Engine manufacturer, model number, and serial number
- b. Date the engine was manufactured.
- c. Date the engine was installed at the facility
- d. Engine output (horsepower or kilowatts)
- e. Fuel type (diesel or natural gas)
- f. Maximum fuel consumption capacity of the engine.

One (1) generator was inspected. It is located in the east terminal in a locked room. The following information was recorded off the generator:

Cummins Power Generation, diesel fuel-fired, 350 kW
Engine Model No. QSX15-G9
Engine Serial No. 32060411
Engine exhaust is out the south sidewall, horizontally.
Engine Clock Hours - 280.3 hours

The largest generator on-site is 800 kW and uses at maximum 56.4 gph of diesel fuel. The maximum heat input for this engine is calculated as follows: $56.4 \text{ gph} \times 0.1385 \text{ MMBtu/gal} = 7.81 \text{ MMBtu/hr}$. The generator meets exemption Rule 285(2)(g) for internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.

The sulfur content of the fuel oil used at the facility is less than 0.0015% by weight as required by the NRLM diesel fuel standard in 40 CFR 80.510(c). For emergency generators, it is assumed that they operate no more than 500 hours per year at worse-case.

All emergency generators on-site appear to meet exemption Rule 285(2)(g).

Maintenance Building:

This building was not inspected but does have an aqueous based parts washer. It uses Ozi-Clean, biodegradable material. Washer fluid is added as needed with no waste stream. When not in use, the lid on the unit is closed. The aqueous based parts washer appears to meet exemption Rule 281(2)(k).

Records:

The requested records were emailed and attached.

1. International Waste Collection Points
2. Temperature logs (only the log dated 1/25/18 – 2/5/2018 attached)
3. CRAA International Garbage Incinerator Log – 12/26/2016 to 03/20/2018

4. Copies of the Granger Non-Hazardous Waste & Asbestos Manifests dated 01/26/2017, 02/22/2017, 03/27/2017, 05/24/2017, 08/30/2017, 01/23/2018 and 02/14/2018.
5. Copy of the ash analysis - sampled 06/15/2017.
6. CRAA Training Logs dated 12/07/2017
7. Joseph Day Preventative Maintenance service log dated 07/13/2017
8. Loy Instrumentation Service Engineering Report with calibrations dated 08/29/2017
9. Emergency generator list and specs
10. Safety Data Sheets (SDS) for Marathon Petroleum No. 2 Ultra Low Sulfur Diesel

Summary:

The facility appeared to be in compliance with PTI 118-08, and applicable rules and regulations. The CISWI regulations for the incinerator are not yet applicable. Once the State Plan or Federal Plan is final, a Title V application should be in-house at a minimum for compliance.

For a Title V application, a facility-wide potential to emit for all emissions of criteria pollutants and hazardous air pollutants will need to be performed. Also, the facility will need to include the federal standards that are applicable to the emergency generators for inclusion in the ROP.

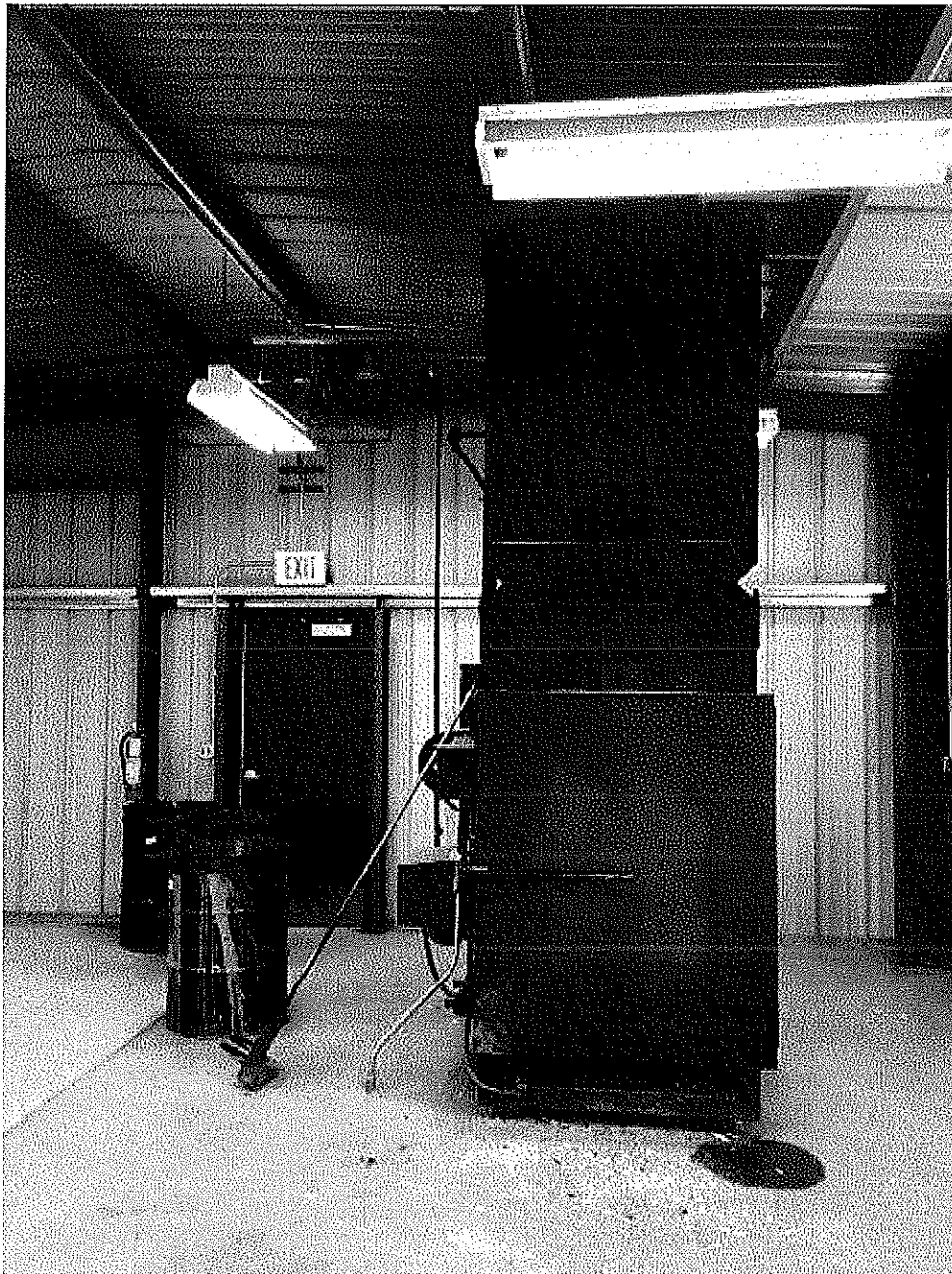


Image 1(98) : EUINCINERATOR



Image 2(99) : International waste lined up to be burned.



Image 3(100) : Ash container

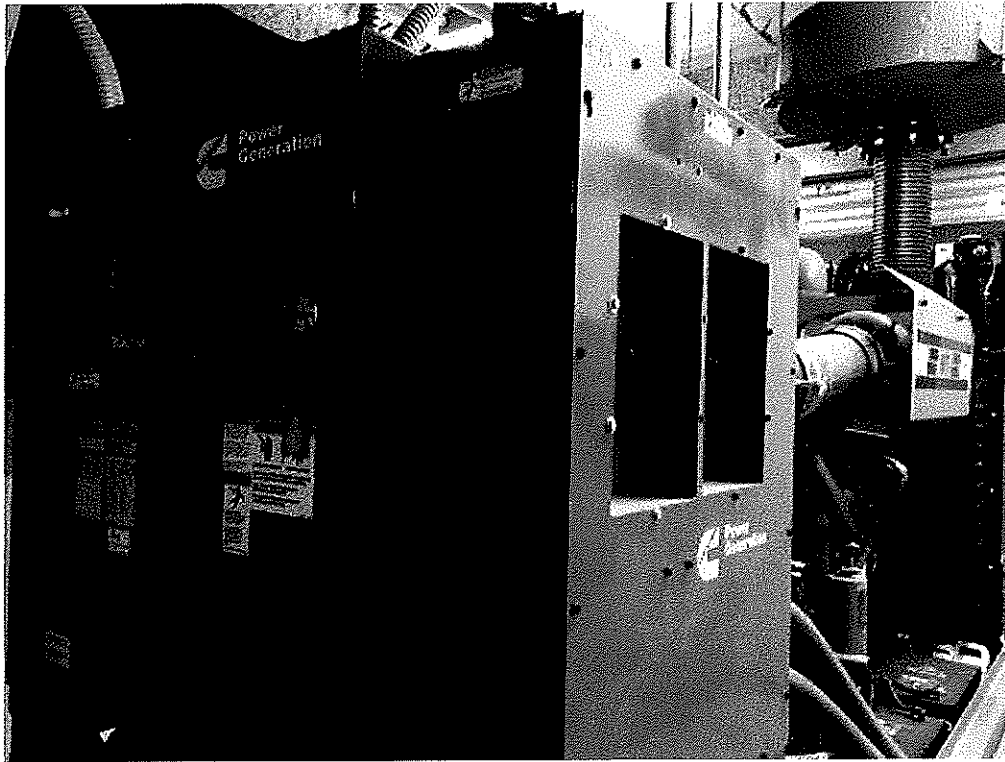


Image 4(104) : Cummins Power Generator, diesel fuel-fired, 350 kW

NAME Julie P. Kamm DATE 4/3/18 SUPERVISOR B.M.

