RCRA Inspection Report

1) Inspector and Author of Report

Alan Newman
Environmental Engineer
Phone: 404-562-8589
newman.alan@epa.gov

U.S. Environmental Protection Agency, Region 4
Enforcement and Compliance Assurance Division
Chemical Safety and Land Enforcement Branch
RCRA Enforcement Section
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

2) Facility Information

Ensign Bickford Aerospace & Defense Company (EBAD)
500 Bickford Road
Graham, Kentucky 42344
Muhlenburg County

EPA ID#: KYR000032102
NAICS #: 325920 - Explosives Manufacturing

3) Responsible Officials

Christopher Ford
Environmental, Health, and Safety Manager
(270) 377 - 3207
cpford@ebad.com

4) Inspection Participants

Christopher Ford, EBAD
Philip Caudill, EBAD

Curtis Scott, KDEP
Scott Gerstner, KDEP
Alan Newman, EPA

5) Date of Inspection

May 4, 2023, 9:00 am to 5:00 pm.

6) Applicable Regulations[1]

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; Rules Governing Hazardous Waste Management Title 401 of Kentucky Administrative Regulations (401 K.A.R.) Chapters 30 through 40 and 44 Kentucky Department for Environmental Protection.

1 As the State's authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions will be to the authorized State program. However, for ease of reference, the federal citations will follow in brackets.

Kentucky Revised Statutes Title XVIII, Chapter 224, Subchapter 46-Hazardous Waste et seq. (2006), and Title 401 of the Kentucky Administrative Regulations (K.A.R.) Chapters 30 through 38, 43 and 44 (2006).

Pursuant to 401 KAR 39:005 Section 1 [40 C.F.R. § 260.10], a large quantity generator of hazardous waste (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 pounds) of non-acute hazardous waste in a calendar month.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17], an LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17] (hereinafter referred to as the "LQG Permit Exemption").

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)] (hereinafter referred to as the "SAA Permit Exemption").

Pursuant to 401 KAR 39:080 Section 3(1) [40 C.F.R. § 273.9], a small quantity handler of universal waste (SQHUW) is a universal waste handler who does not accumulate 5,000 kilograms or more of universal waste (batteries, pesticides, mercury-containing equipment, lamps, or aerosol cans, calculated collectively) at any time.

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine EBAD's compliance with the applicable requirements of RCRA and the corresponding Kentucky regulations. This was an EPA lead inspection.

8) Facility Description

Ensign Bickford Aerospace and Defense Company (EBAD) operates a manufacturing plant for explosives in Graham, Kentucky. The facility manufactures various explosive devices for the military and aerospace industry. EBAD most recently notified on December 13, 2022, as a large quantity generator of hazardous waste, a secondary handler of universal waste, and a used oil generator which included twenty (20) registered hazardous waste streams. This registration expires on January 31, 2024. KDEP approved an application for onsite generator treatment of Lead Azide and Lead Styphnate in containers in a letter dated June 23, 2010. This generator treatment approval continues to the present. The facility occupies approximately 1,200 acres and employs approximately 108 employees.

The twenty hazardous waste streams include:

	Waste Description (waste code)
1	Solvent Waste with Secondary Explosive (D001, D019, F002, F003)
2	lsobutyl Isobutyrate (D001)
3	Paint Related Waste Material (D001, D035)
4	Explosive Contaminated Material (D003)
5	Dichloromethane (F002)
6	Explosive Waste (D003, D005, D007, D008, D010))
7	Spent Acid Waste (D002)
8	GAP Solvent Waste (D001, D003)
9	Boil Tank Water (D007)
10	Metal Powder Waste (D001, D003)
11	Mercury (D009)
12	MAPO Process Water (F002)
13	Waste lsocyanates (D003)
14	Xylene (D001, D018, F003, U239)
15	Killed Lead Azide (D002, D008)
16	Killed Lead Styphnate (D002, D008)
17	Woodchips with Alcohol (D001)
18	Lead Debris (D008)
19	Barium Sulfate (D005)
20	Sodium Hydroxide (D002)

9) Previous Inspection History

KDEP has conducted four RCRA CEIs at the subject facility between 2017 and 2022 and found twenty-nine (29) violations during those inspections.

On August 25, 2022, KDEP conducted the most recent RCRA CEI at the subject facility and found seventeen (17) apparent violations of RCRA's requirements for: failure to make a hazardous waste determination; failure to label, containerize, and track the length of time of

universal waste and hazardous waste; failure to maintain an up to date contingency plan; failure to manage waste in satellite accumulation areas; failure to conduct daily tank inspections, among other violations. As a result, KDEP issued a formal enforcement action to EBAD on April 3, 2023.

10) Opening Conference

On May 4, 2023, EPA inspector Alan Newman, accompanied by KDEP inspectors Curtis Scott and Scott Gerstner, arrived at EBAD at approximately 9:00 am. Chris Ford, Environmental, Health, and Safety Manager, immediately received the inspectors and participated in the opening conference. The inspectors introduced themselves, showed their credentials to Chris Ford, and explained the purpose of the visit.

The inspectors described the anticipated use of equipment (digital camera) during the inspection and provided a request for records. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The company asserted a business confidentiality claim with respect to the facility manufacturing equipment.

Chris Ford provided an overview of the facility's history and current operations during the opening conference. The inspection participants also discussed health and safety protocols and required personal protective equipment before Chris Ford led the inspectors on a tour of the Facility operations.

11) Inspection Observations

EBAD began operations in 1836 as a mining fuse manufacturer in Simsbury, Connecticut. Through multiple changes in business EBAD currently has operations in Moorpark, California in addition to the Graham, Kentucky facility. The facility operates 24-hours a day seven days a week utilizing three shifts on a 980 schedule (9-hour days with one 8-hour day). The inspection team noted multiple red and white 27-gallon flip-top containers that are used to accumulate the reactive portions of anti-personnel obstacle breaching system (APOBS) waste and explosive contaminated trash (ECT) waste, including floor sweep in white containers, respectively. EBAD segregates waste streams, separates products with earthen berms, uses secondary containment, grounds steel containers, and takes multiple precautions to reduce the potential for ignition sources and friction.

Facility Process Areas with Satellite Accumulation Areas (SAA):
EBAD manages SAAs in the following buildings: the MRF (both floor levels), the Laboratory, the Auto Det Building (Building 28) (receiving area, styphnate kill room, and azide kill room), the Observation Building (Building 6), Extruder Building (Building 7), Building 1A-Paint Storage Room, Building 13-Packout, Warheads Building (Building 25), and the Warhead Mixing Building (Building 24) (Photographs 1-12). The hazardous wastes include

shoe covers, ECT, APOBS waste, among other wastes. Containers included plastic containers, totes, flip-top containers, bags which were consolidated into boxes, and 55-gallon metal containers among other containers. Each container was equipped with a lid or closure device which was closed. Each container was marked with the words hazardous waste and identified with an appropriate hazardous identification label. Waste from one container in the Warhead Building (Building 25) is routinely accumulated in another building in the Warhead Complex into a SAA managed container. Waste that is moved from the point of generation should only be moved to a CAA. At the time of the inspection the receiving container was empty. EBAD should ensure that waste accumulated in SAA containers are not moved to other SAA containers.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by KRS 224.46-520(1) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.15(a)] (hereinafter referred to as the "SAA Permit Exemption").

Facility Areas with Central Accumulation Areas (CAAs):
EBAD manages multiple hazardous waste CAAs in the Building 13, Magazine 3, and Multi-Reaction Facility (MRF). The areas were identified with a sign which read "danger, hazardous waste storage." EBAD manages ignitable and reactive waste in CAAs; the inspectors observed "No Smoking" signs in these areas.

The CAAs are equipped with internal communications including radios, land lines, and alarm system capable of providing immediate emergency instruction to facility personnel; they are equipped with a device capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams; they are equipped with portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment; and they are equipped with water to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray system.

EBAD was storing multiple containers at the rear of Building 13. Wastes from SAAs across the site arrive and are segregated into one of two wheeled CAA containers (Photograph 13). The red one is designated for bulk explosives and the white one is designated for ECT. Each of these containers was labeled as hazardous waste, with an indication of the hazard, and both with accumulation start dates of February 14, 2023. EBAD personnel remove the waste from these two wheeled bins and ensure they are segregated correctly on a table in this location (Photograph 14). Bulk explosive wastes in plastic bags are repackaged and consolidated into small boxes; there were three such boxes present on the day of the inspection which were labeled with the words Hazardous Waste, an explosive indication of the hazard, and an accumulation start date of April 12, 2023 (Photograph 15). ECT waste is repackaged into a gaylord box which is labeled with the words Hazardous Waste, an explosive indication of hazard, and an accumulation start date of April 19, 2023 (Photograph 16). The inspection team inquired about the red 30-gallon

plastic container underneath the table. EBAD personnel stated that this container was accumulating waste from the repackaging process and being managed as an SAA. The inspection team stated that since this area solely processed waste generated in other locations of the facility this container should be managed as a CAA and not a SAA. The container was not labeled with an accumulation start date; EBAD personnel dated the container during the inspection.

Pursuant to 401 KAR 39:080, Section 3(1) [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with the following: the words "Hazardous Waste"; an indication of the hazards of the contents; and the date upon which each period of accumulation begins clearly visible for inspection on each container.

Building 1A CAA

EBAD utilized space in Building 1A as a CAA. The inspection team noted one 55-gallon in an SAA equipped with an aerosol can puncture device, a container of universal waste batteries, and multiple containers of used oil (Photograph 12, 39-40). These containers are discussed later or referenced previously in this report. EBAD was evaluating several 1-gallon containers of expired paint to determine their potential future use. There was no hazardous waste present in the CAA on the day of the inspection.

Magazine 3 CAA

The inspection team reviewed the containers being stored in Magazine 3 CAA. There were 13 Gaylord boxes and four pallets of packaged boxes of hazardous waste (Photographs 17-20). These containers were in good condition, labeled with the words Hazardous waste and with an indication of the hazard. The oldest accumulation start date was February 16, 2023. The inspection team noted insufficient aisle space between containers in Magazine 3 (Photographs 17-20).

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.255], and is a condition of the LQG Permit Exemption, a generator is required to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

Multi-Reaction Facility (MRF) CAA

The inspection team reviewed the containers being stored in the MRF CAA (Photographs 21-27). The inspection team noted insufficient aisle space between containers in MRF (Photographs 21). Multiple containers of corrosive killed lead azide were being stored in containers with the locking rings in the open position and were therefore considered to be open.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.255], and is a condition of the LQG Permit Exemption, a generator is required to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(iv)], which is a condition of the LQG Permit Exemption, (A) a container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste; and (B) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

Hazardous Waste Tanks

EBAD was granted a Conditional Major Operating Air Quality Permit F-17-046 by KDEP. According to this permit, EBAD is operating two tanks that store hazardous waste. Tank TK3000 has a capacity of 1,400 gallons and is used to store Methylene Chloride (MeCl) waste (no photographs). Tank TK503 has a capacity of 5,000 gallons and is used to store MRF Isobutyl isobutyrate (IBIB)/Xylene waste (Photographs 28-35). Both tanks were constructed in October 1991. IBIB/Xylene waste and MeCl waste are hard piped into and out of their respective tanks for transport off site.

Tank TK3000 is housed in a building that is in disrepair in the GAP area of the facility; a portion of the roof was missing; and rainwater had accumulated in the concrete bermed area. There was one CAA container in this area in standing rainwater. The inspection team could not ascertain if this container was storing waste (Photograph 36). Facility personnel stated that the MeCl tank was empty on the day of the inspection. The inspection team advised that all requirements of RCRA would need to be met prior to storing waste in this tank.

Tank TK503 was labeled as hazardous waste with a flammable liquid indication of the hazard and with an accumulation start date of April 3, 2023. The inspection team noted dirt and debris in secondary containment of TK503. It is recommended that the secondary containment be cleaned on a regular basis to minimize dust and dirt from mixing with any potential spill from the tank resulting in increased remediation costs. The tank was labeled as flammable liquid and as hazardous waste. On the day of the inspection, facility personnel stated that there were approximately 850 gallons being stored in the tank. There were no high-level alarms or level indicators on the tank.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.194(b)(2)], and is a condition of the LQG Permit Exemption, a generator who stores waste in a tank must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum: (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank).

According to records from Clean Harbors profiles CH2129784B and CH165415B, both of these tanks appear to be subject to 40 C.F.R Part 265 Subparts BB and CC (Subparts BB or CC). Profile CH2129784B lists Xylene waste as >10% total organic carbon (TOC) and a flash point between 73-100 F. This profile list Xylene between 16-90% of waste. Profile CH165415B lists methylene Chloride as <1% TOC and a flash point of >200 F. This profile list Methylene Chloride as 60-70% of waste. Wastes enter and exit these tanks through ancillary piping via pumps. Facility personnel stated that they had not conducted any Subparts BB or CC applicability testing or monitoring.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.1084(a)] and is a condition of the LQG Permit Exemption, a generator shall determine the average volatile organic concentration of hazardous waste at the point of waste origination.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265.1063(d)] and is a condition of the LQG Permit Exemption, a generator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight, using the methods listed.

Facility Area for Universal Waste Management:
EBAD manages universal waste lamps in Building 2 and batteries in Building 1A. EBAD was storing universal waste lamps in Building 2 in one 4-foot box, one 8-foot box, and one miscellaneous box (Photographs 37-38). These containers were closed, labeled, and in good condition. The oldest accumulation start date was September 1, 2022. EBAD was storing universal waste batteries in Building 1A in a one-gallon plastic container (Photograph 39). The container was in good condition, closed, and labeled with the words universal waste batteries and with an accumulation start date of April 10, 2023.

Facility Area for Used Oil Managment:
EBAD managed used oil in Building 1A in one 30-gallon container, one tote, and one 55-gallon metal container (Photograph 40). Each container was labeled and in good condition. The inspection team noted spilled used oil in the secondary containment. Used oil generators are required to remediate spills of used oil.

Pursuant to KRS 224.1-405(1) and 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(d)], upon detection of a release of used oil to the environment, the facility must clean up and manage properly the released used oil and other materials.

12) Records Review

Contingency Plan and Quick Reference Guide (QRG):
The actions that facility personnel should take in response to an emergency are described in the facility's Emergency Action Plan, which was last updated on June 20, 2021. The plan describes actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. The plan describes arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or the Local Emergency Planning Committee. The plan lists the names and emergency telephone numbers for persons identified as emergency coordinators. Chris Ford is listed as the primary emergency coordinator, and the other individuals are listed in the order in which they will assume responsibility as alternates. The plan includes a list of all emergency equipment at the facility. The list includes fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment. The list appears to be up to date. The plan includes the location and a physical description of each item on the list, and a

brief outline of its capabilities. The plan includes an evacuation plan for personnel. This plan describes signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes. A copy of the Emergency Action Plan (and its quick reference guide) was most recently submitted to the Kentucky State Police, Muhlenburg County EMA, Muhlenberg County 911, Muhlenberg County Sheriff's Department, Graham Fire Department, and the Owensboro Health Muhlenberg Hospital on September 30, 2022.

The quick reference guide includes the types/names of hazardous waste in layman's terms and the associated hazard associated with each hazardous waste present at any one time; the estimated maximum amount of each hazardous waste that may be present at any one time; the identification of any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff; a map of the facility showing where hazardous wastes are generated, accumulated and treated and routes for accessing these wastes; a street map of the facility in relation to surrounding businesses, schools and residential areas; the locations of water supply; and the identification of on-site notification systems. The inspection team noted that the Emergency Action Plan and the QRG list the emergency coordinator in different orders and the name of the emergency coordinator(s). This was an area of concern for the inspection team.

Pursuant to 401 KAR 39:080 Section 1(1)] [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.262(b)], and is a condition of the LQG Permit Exemption, a large quantity generator that is otherwise amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee. The quick reference guide must include all the elements listed in 40 C.F.R. § 262.262(b)(l) through (8).

Hazardous Waste Registration:
The inspection team noted two 5-gallon containers of waste Desmodur in storage in the MRF CAA (Photographs 26-27). These containers were in good condition, labeled as hazardous waste with an indication of the hazard, and an accumulation start date of April 19, 2023. This waste stream is not included on the waste registration.

Pursuant to 401 KAR 39:080 Section 1(5), hazardous waste generation and onsite management of hazardous waste shall be consistent with the registration submitted to KDEP.

Training Records:
The inspectors requested facility job descriptions and employee names that were provided for each description. EBAD did not provide these records. The inspectors reviewed records of employee hazardous waste training completed in 2020 through 2023.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(7)], which is a condition of the LQG Permit Exemption, (iv) the generator must maintain training records that include, among others: the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; a written job description for each position; a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position;

and records documenting that the training required has been given to and completed by Facility personnel.

Waste Manifest and Land Disposal Restriction (LDR) Records:
The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent since 2021. EBAD has shipped waste to the following TSDs in 2021-2022: Clean Harbors El Dorado (ARD069748192), GD-OTS (MOO985798164), Clean Harbors Deer Park (TXD055141378), Spring Grove Resource Recovery (OHD0008 l 6629), Safety Kleen Systems (KYD053345108), and Clean Harbors Recycling Services (OHD980587364). Hazardous waste manifest records show that the most recent shipment was made on February 15, 2023. During the review of manifests, it was noted that EBAD signed the manifest on the Transporter #2 line instead of as the Generator on manifest 017833590FLE. This is an area of concern for the EPA and KDEP. EBAD was unable to locate the land disposal documentation for waste which was shipped to General Dynamics- Ordinance and Tactical Systems (GD-OTS, EPA ID #MOD685798164) located in Joplin, MO.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(9)], which incorporates 401 KAR 39:060 Section 4 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste.

Weekly Inspection Records:
The inspectors reviewed EBAD's available records of inspections of the hazardous waste CAA since 2021. The inspection log includes a checklist to record observations about leaking containers and for deterioration of containers caused by corrosion or other factors. The inspection log includes a checklist to record observations about aisle space, visible container labels, legible container labels, complete container labels, closed lids and bungs, condition of containers, container accumulation time, evidence of spills, and date of oldest container. The records include the date and time of the inspection and the name, signature and initials of the employee conducting the inspection. EBAD was unable to produce inspection records for the CAA locations between the weeks of December 22, 2022, and January 30, 2023. EBAD inspectors documented several areas of non-compliance in the inspection records. There were no subsequent corrective measures noted on the inspection records. The inspection team recommended adding am/pm to the inspection forms and a count of the number of containers in storage on the day of the inspection.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.

Tank Records:
The inspection team requested written assessment reviewed and certified by a qualified Profession Engineer attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The inspection team requested the inspection records of the tanks prior to use and results of a tightness test of the ancillary

equipment. EBAD was unable to produce these documents. Neither of these tanks are equipped with an emission control device. EBAD stated that no monitoring under Subparts BB or CC had been conducted since operating the tanks.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265, Subpart J], and is a condition of the LQG Permit Exemption, a generator accumulating hazardous waste in tank systems is required to comply with the applicable requirements of 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265, Subpart J], except 401 KAR 39:090 Section 2(1) [40 C.F.R § 265.197(c)] (closure and post-closure care) and 401 KAR 39:090 Section 2(1) [40 C.F.R § 265.200] (waste analysis and trial tests).

Pursuant to 401 KAR 39:090 Section 2(1)] [40 CFR 265.192(a, b, d)], and is a condition of the LQG Permit Exemption,

(a) a generator accumulating hazardous waste in tanks must obtain a written tank assessment reviewed and certified by a qualified Professional Engineer, attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste;

(b) a generator accumulating hazardous waste in tanks prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector, or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for defects; and

(d) a generator accumulating hazardous waste in tanks all new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

During the records review, the inspection team noted the following three manifests:

Waste Name and Code	Date of Shipment	Amount (gallons)	EPA Waste Code
Hazardous waste liquid (Methylene chloride, water)	7/22/2022	3,000	F002
Waste Flammable Liquids (Xylene, Ethyl Benzene)	10/6/2022	1,000	D001 D018 F003
Waste Flammable Liquids (Isobutyl Iso butyrate, oil)	12/9/2022	5,000	D001

EBAD facility personnel stated that the tanks had been unused for some time prior to April 2023. There were no daily tank inspection records from 2022 through April 2023 available during the inspection. It is unclear how many of these days the tanks were actively storing hazardous waste. EBAD personnel stated that they were not inspecting the tanks each day of operation. The

inspection team recommends that the tank inspection forms record the accumulation start dates for each operating tank. Facility personnel stated that they had not conducted any Subpart BB or CC inspections or monitoring on either tank or associated ancillary equipment. These issues were discussed in the recent KDEP enforcement action.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.195(a, b, e)], and is a condition of the LQG Permit Exemption, a generator accumulating hazardous waste in tanks must conduct daily inspections of monitoring and leak detection equipment data, overspill control equipment, above ground portions of the tank, the secondary containment system, and the tank ancillary equipment that is not provided with secondary containment.

Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17 (a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 CFR Part 265 Subparts BB, and CC], and is a condition of the LQG Permit Exemption, a generator is required to comply with applicable organic air emission standards for equipment and tanks.

13) Closing Conference

The inspectors conducted the exit meeting at 4:30 p.m. with Chris Ford. During this meeting, the inspectors stated their preliminary conclusions of the inspection. EBAD agreed to provide updates on compliance with RCRA Subparts BB and CC along with the other issues noted above. No subsequent records were received.

14) Summary of Observations

Based on the observations made during the inspection, the following RCRA requirements appear to be applicable at the subject facility:

The inspection team observed EBAD storing waste in multiple open containers in MRF CAA.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(iv)], which is a condition of the LQG Permit Exemption, (A) a container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste; and (B) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.**

EBAD was unable to provide inspection records to the inspection team at the CAAs between the weeks of December 22, 2022, and January 30, 2023.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(1)(v)], which is a condition of the LQG Permit Exemption, a generator is required to, at least weekly, inspect central accumulation areas looking for leaking containers and for deterioration of containers caused by corrosion or other factors.**

The inspection team noted that EBAD did not appear to meet all portions of Subpart J for storage of hazardous waste in tanks.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265, Subpart J], and is a condition of the LQG Permit Exemption, a generator accumulating hazardous waste in tank systems is required to comply with the applicable requirements of 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265, Subpart J], except 401 KAR 39:090 Section 2(1) [40 C.F.R § 265.197(c)] (closure and post-closure care) and 401 KAR 39:090 Section 2(1) [40 C.F.R § 265.200] (waste analysis and trial tests).**

The inspection team did not observe records that established sufficient tank integrity or adequately certification and testing to store hazardous waste.

- **Pursuant to 401 KAR 39:090 Section 2(1)] [40 CFR 265.192(a, b, d)], and is a condition of the LQG Permit Exemption,**
  (a) a generator accumulating hazardous waste in tanks must obtain a written tank assessment reviewed and certified by a qualified Professional Engineer, attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste.
  (b) a generator accumulating hazardous waste in tanks prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for defects;
  (d) a generator accumulating hazardous waste in tanks all new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

The inspection team did not observe overspill prevention controls on EBAD's hazardous waste tanks.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.194(b)(2)], and is a condition of the LQG Permit Exemption, a generator who stores waste in a tank must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum: (2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank).**

The inspection team did not observe EBAD's inspection records for each hazardous waste tank for each operating day.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.195(a, b, e)], and is a condition of the LQG Permit Exemption, a generator accumulating hazardous waste in tanks must conduct daily inspections of monitoring and leak detection equipment data,**

overspill control equipment, above ground portions of the tank, the secondary containment system, and the tank ancillary equipment that is not provided with secondary containment.

The inspection team did not observe any records to document compliance with RCRA Subpart BB and CC requirements with respect to EBAD's hazardous waste tanks.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17 (a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 CFR Part 265 Subparts AA, BB, and CC], and is a condition of the LQG Permit Exemption, a generator is required to comply with applicable organic air emission standards for tanks.**

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. § 265.1084(a)] and is a condition of the LQG Permit Exemption, a generator shall determine the average volatile organic concentration of hazardous waste at the point of waste origination.**

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(2)], which incorporates 401 KAR 39:090 Section 2(1) [40 C.F.R. Part 265.1063(d)] and is a condition of the LQG Permit Exemption, a generator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight, using the methods listed.**

The inspection team observed a container in Building 13 without an accumulation start date.

- **Pursuant to 401 KAR 39:080, Section 3(1) [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with the following: the words "Hazardous Waste"; an indication of the hazards of the contents; and the date upon which each period of accumulation begins clearly visible for inspection on each container.**

The inspection team observed a insufficient aisle space in in MRF CAA and Magazine 3 CAA.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(6)], which incorporates 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.255], and is a condition of the LQG Permit Exemption, a generator is required to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.**

The inspection team did not observe job titles or job descriptions for employees at the facility.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(7)], which is a condition of the LQG Permit Exemption, (iv) the generator must maintain training records that include, among others: the job title for each position at the facility related**

to hazardous waste management, and the name of the employee filling each job; a written job description for each position; a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position; and records documenting that the training required has been given to and completed by Facility personnel.

The inspection team observed that there was one missing land disposal documentation for waste which was shipped to General Dynamics- Ordinance and Tactical Systems (GD-OTS, EPA ID #MOD685798164) located in Joplin, MO.

- **Pursuant to 401 KAR 39:080 Section 1(1) [40 C.F.R. § 262.17(a)(9)], which incorporates 401 KAR 39:060 Section 4 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste.**

The inspection team observed an un-remediated spill of used oil in the secondary containment pallet in Building 1A.

- **Pursuant to KRS 224.1-405(1) and 401 KAR 39:080 Section 4(1) [40 C.F.R. § 279.22(d)], upon detection of a release of used oil to the environment, the facility must clean up and manage properly the released used oil and other materials.**

The inspection team noted wastes at the facility that were not included on EBAD's registration submitted to KDEP.

- **Pursuant to 401 KAR 39:080 Section 1(5), hazardous waste generation and onsite management of hazardous waste shall be consistent with the registration submitted to KDEP.**

15) List of Appendices

Appendix 1 – Photo Log:

16) Signed

ALAN NEWMAN Digitally signed by ALAN NEWMAN
Date: 2023.09.21 10:34:40 -04'00'

Alan Newman
Environmental Engineer

17) Concurrence

ARACELI CHAVEZ Digitally signed by ARACELI CHAVEZ
Date: 2023.09.21 11:11:45 -04'00'

Araceli B. Chavez
RCRA Enforcement Section

Appendix 1

Photograph Log:

40 Photographs taken May 4, 2023.
Photographs taken by Alan Newman
Photographs taken with Lumix Digital
EPA Property Tag: S75870

Photograph 1: Building 2 SAA Nitrocellulose.

Photograph 2: Building 2 SAA explosive floor sweep.

Photograph 3: Building 6 SAA Explosives.

Photograph 4: Building 6 SAA Explosives.

Photograph 5: Building 28 SAA Lead Styphnate.

Photograph 6: Building 28 SAA Lead Styphnate.

Photograph 7: Building 28 SAA Lead Azide.


Photograph 10: Building 25 SAA.


Photograph 8: Building 25 SAA.

Photograph 11: Building 26 SAA.


Photograph 9: Building 25 SAA.

Photograph 12: Building 1A SAA.

Photograph 13: Building 13 CAA.

Photograph 14: Building 13 CAA.

Photograph 15: Building 13 CAA.

Photograph 16: Building 13 CAA.

Photograph 17: Magazine 3 CAA.

Photograph 19: Magazine 3 CAA.

Photograph 18: Magazine 3 CAA.

Photograph 20: Magazine 3 CAA.

Photograph 21: MRF CAA.

Photograph 24: MRF CAA.

Photograph 22: MRF CAA.

Photograph 25: MRF CAA.

Photograph 23: MRF CAA

Photograph 26: MRF CAA.

Photograph 27: MRF CAA.


Photograph 28: Hazardous Waste CAA Tank TK503.


Photograph 29:
Hazardous Waste CAA Tank TK503.


Photograph 30:
Hazardous Waste CAA Tank TK503.


Photograph 31:
Hazardous Waste CAA Tank TK503.
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Photograph 32:
Hazardous Waste CAA Tank TK503.

Photograph 33:
Hazardous Waste CAA Tank TK503.

Photograph 34:
Hazardous Waste CAA Tank TK503.

Photograph 35: Hazardous Waste CAA Tank ancillary equipment.

Photograph 36: CAA unlabeled.

Photograph 37: Building 2 universal waste lamps.

Photograph 38: Building 2 universal waste batteries.


Photograph 40: Used Oil containers in Building 1A.


Photograph 39: Building 1A universal Waste batteries.