

RCRA Inspection Report

1) Inspector and Author of Report

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2) Facility Information

National Aeronautics and Space Administration EPA ID# MS2800090001
John C Stennis Space Center
Code RA00, Building 1100, Room 3021H
Stennis Space Center, Mississippi 39529

3) Responsible Officials

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4) Inspection Participants

John Boffenmyer, NASA
Adam Murrah, NASA
Michael Atkinson, NASA

Kristyn Mauffray, NASA
Brad Justice, MSDEQ
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5) Date of Inspection

January 10, 2023

6) Applicable Regulations¹

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; and Mississippi Code of 1972, Miss. Code Ann. § 17-17-1 *et seq.*, and Mississippi Hazardous Waste Management Regulations, 11 Miss. Admin. Code Pt. 3, R. 1.1-1.24.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.1 [40 C.F.R. § 260.10], a large quantity generator (LQG) of hazardous waste 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.

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.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.21 [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.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [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 Section 17-17-27(4) of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27(4) [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [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 Section 17-17-27(4) of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27(4) [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

7) **Purpose of Inspection**

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine the National Aeronautics and Space Administration John C. Stennis Space Center’s compliance with the applicable requirements of RCRA and the corresponding Mississippi regulations. This was an EPA lead inspection.

8) **Facility Description**

John C. Stennis Space Center:

The John C. Stennis Space Center (Stennis or SSC) is one of ten National Aeronautics and Space Administration (NASA) centers in the United States. The facility provides ground-testing services for rocket propulsion systems, including propulsion test services, engineering services and range utilization services for NASA, the Department of Defense (DoD), and partners in commercial industry and academia. According to nasa.gov, the facility was used to test 27 Saturn V rocket stages during the Apollo Program, including those that carried astronauts to the Moon from 1969 to 1972. Stennis also conducted 2,307 space shuttle hot fires from 1975 to 2009 and tested every engine that powered 135 shuttle missions to space. The site is currently testing RS-25 engines that are intended to send the SLS rocket on Artemis missions to the Moon and eventually to Mars.

NASA began testing operations at Stennis in 1963 or 1964. Since then, the installation has evolved and become home to about 40 federal, state, academic, private, and technology-based tenants. One former tenant operated an army ammunition plant on the north side of the installation in the 1980s and 1990s. The plant shut down in the early 1990s and has recently been converted for NASA maintenance activities and tenant warehouse storage. In all, Stennis currently has approximately 5,000 employees. About 3,000 of these individuals are employed by or for the United States Navy, which conducts oceanographic research and Navy seals war fighting training onsite. NASA has approximately 700 employees onsite, including approximately 200 NASA civil servants and 500 support contractors. The tenants operate using a cost-sharing model for infrastructure and services, but each entity has been issued its own EPA number for managing RCRA hazardous waste. NASA's operations at Stennis are performed under the NAICS Code 927110 for Space Research and Technology.

In terms of geographic size, Stennis is NASA's second largest center in the United States. It is located on more than 138,000 acres of land, which includes a 13,800-acre "fee area" and a 125,000-acre "buffer zone." All Stennis facilities and structures are located in the fee area, and the buffer zone surrounds this area in a 9-mile radius extending in all directions. NASA has three full sized test stands and one smaller test complex and engine testing facility within the fee area. The buffer zone is considered a national asset, and it is critical for minimizing the impact that loud and low frequency sound waves produced by the Propulsion Test Complex may have on local communities. Areas of the buffer zone may be privately owned, but no habitable structures are permitted on the property. As a result, the buffer zone allows NASA and the resident agencies and partners at SSC to test large engines or rocket stages around the clock any time of the year with little-to-no interruption of area businesses and residents.

Hazardous Waste Management:

NASA has operated as a large quantity generator (LQG) of hazardous waste at this location for well over 25 years. Approximately 25-30 satellite accumulation areas (SAAs) have been identified where hazardous wastes may be generated and accumulated onsite. Hazardous wastes may be generated from cleaning engine parts in preparation for testing, from laboratory sampling and analysis, and from general maintenance activities. Stennis personnel explained that they are in the process of changing management practices for used aerosol cans at the facility. Historically, used aerosol cans have been managed as hazardous waste before they are punctured on-site. Empty, punctured cans have been sent off-site as scrap metal, and the contents of the cans are accumulated as hazardous waste. Stennis is in the process of implementing new practices to manage used aerosol cans as universal waste before they are punctured on-site. As part of the quick reference guide, SAAs have been identified for the following hazardous wastes:

Isopropyl alcohol	D001
Aerosol cans	D001
Solvent rags	
AK225G solvent	
Carbon w/tetrachloroethylene	
Xray films	
Waste pharmaceuticals	
Fuel filters	D001, D018

Paint thinner	D001, F003, F005, D035
Adhesives	
Lead contaminated debris	D008
Corrosive, toxic lab waste	D002, D008
Flammable lab pack	D001
COD vials	D002, D009, D011, D007

NASA may accumulate the waste in 5-gallon, 30-gallon, or 55-gallon containers at SAAs. According to facility personnel, the Lead Hazardous Waste Specialist performs inspections of all SAAs about once or twice each month and transfers containers of hazardous waste from the SAAs to the facility's hazardous waste central accumulation area (CAA) when personnel at the SAA complete a waste removal form or when the Lead Hazardous Waste Specialist determines that the container should be moved to the CAA. NASA operates one CAA for storing containers of hazardous waste until they are picked up by Clean Harbors for transport to a designated facility. Personnel stated that Clean Harbors comes to the facility about once every 60 days to pick up containers of hazardous waste.

NASA most recently notified as an LQG of hazardous waste as part of the biennial report, which was submitted on February 22, 2022. According to the biennial report, NASA shipped the following hazardous wastes offsite during calendar year 2021:

Waste	Codes	Volume
Debris contaminated with sandblast grit	D005, D006, D007, D008	12,940 pounds
Waste liquid	D040, F001, F002	11,000 pounds
Spent carbon	D040, F001	7,000 pounds
Waste trichloroethylene	D040, F001, F002, U228	4,900 pounds
Wipes with alcohol acetone	D001, D019, D021, D026, D035, D036, D038, D039, D040, F001, F002, F003, F004, F005	2,234 pounds
Waste flammable solid	D001, D019, D021, D026, D035, D036, D038, D039, D040, F001, F002, F003, F004, F005	2,234 pounds
Lead contaminated debris	D002, D004, D005, D006, D007, D008	2,175 pounds
Waste paint thinner	D001, D005, D035, F003, F005	2,115 pounds
Hazardous waste liquid (activated carbon, trichloroethylene)	F001	1,980 pounds
Waste paint related material	D001, D005, D035, F003, F005	1,265 pounds
Lab pack flammables for incineration	D001, D002, U122, U154	1,184 pounds

Waste Paint	D001, D005, D007, D023, D024, D025, D026, D035, D036, D039, D040, F003, F005	918 pounds
Waste gasoline	D001, D008	600 pounds
Lab pack organics for incineration	D001, D002, D005, D006, D008, U118, U188	547 pounds
Isopropyl alcohol	D001	545 pounds
Lab pack acid and acid compatibles for incineration	D001, D002	312 pounds
Sodium hydroxide solid	D002	300 pounds
Used aerosols	D001, D005, D007, D023, D024, D025, D026, D035, D036, D039, D040	250 pounds
Used antifreeze	D004, D005, D006, D007	250 pounds
Lab pack mercury salts and solutions for retort	D002, D009, U151	212 pounds
Lead acid batteries for reclamation	D002, D008	162 pounds
Mercury analysis waste	D001, D002	113 pounds
Waste corrosive liquid (mercury, sulfuric acid)	D002, D007, D009, D011	60 pounds
Lab waste	D002, D004, D005, D006, D007, D008, D009, D010, D011	42 pounds
Waste flammable solids, organic	D001, D018	40 pounds
Waste flammable liquids	D001, D035	30 pounds
Lab pack basic and basic compatibles for incineration	D002, D009	24 pounds
Waste corrosive liquid	D002, D007, D009, D011	23 pounds
Lab pack oxidizers for incineration	D001	8 pounds
Propane	D001	2 pounds

9) **Previous Inspection History**

MDEQ has conducted six RCRA CEIs at the subject facility over the past twenty years and one of those CEIs was a joint inspection with EPA. MDEQ and EPA found four violations during the March 26, 2013, joint CEI, which appeared to be corrected immediately.

10) **Opening Conference**

On January 10, 2022, EPA inspector Laurie Benton DiGaetano, accompanied by Mississippi Department of Environmental Quality inspector Brad Justice, arrived at the National Aeronautics and Space Administration's John C. Stennis Space Center at approximately 9:00 AM. John Boffenmyer, Environmental Protection Specialist, immediately received the inspectors. John Boffenmyer and the inspectors were joined by Adam Murrah (Environmental Lead), Michael

Atkinson (Environmental Manager), and Kristyn Mauffray (Lead Hazardous Waste) for the opening conference. The inspectors introduced themselves, showed their credentials to John Boffenmyer, 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 facility's ability, pursuant to 40 C.F.R. §2.203, to assert a business confidentiality claim for information submitted to EPA. The facility did not assert a business confidentiality claim.

Facility representatives 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 John Boffenmyer, Adam Murrah, Michael Atkinson and Kristyn Mauffray led the inspectors on a tour of the facility operations.

11) Inspection Observations

Building 2210 - Central Accumulation Area (CAA):

The facility tour began at the CAA, which is located on a covered concrete pad surrounded by a half-wall of cinderblocks topped with a chain link fence. The area was secured with a locked chain-link gate and identified with signs that read "hazardous waste 90-day storage facility," and "warning, no smoking." The CAA is equipped with fire extinguishers, emergency shower and eyewash station, an emergency telephone, and a fire pull station.

To the right of the entrance just inside the CAA, the inspectors observed two 500-gallon tanks labeled "used oil."

On the right side of the CAA, the inspectors also observed two 55-gallon drums and one 30-gallon drum on a wooden pallet next to one 55-gallon drum, which was equipped with an aerosol can puncture device, on a secondary containment pallet. One 55-gallon drum on the wooden pallet contained empty, punctured aerosol cans. This drum was labeled aerosol cans scrap metal and dated January 5, 2023. The other 55-gallon drum and the 30-gallon drum both contained used aerosol cans. Each of these drums was labeled universal waste aerosol cans. The 55-gallon drum was dated November 15, 2022, and the 30-gallon drum was dated October 18, 2022. The 55-gallon drum with the aerosol can puncture device was labeled hazardous waste paint related waste and dated December 20, 2022. According to the hazardous waste manifest records, Stennis ships waste paint related material off-site as D001, D005, D035, F003, F005 hazardous waste, which exhibits the hazardous waste characteristics of ignitability and toxicity.

In the far corner of the left side of the CAA, the inspectors observed the following containers on a total of ten secondary containment pallets:

- Pallet 1 – One 55-gallon drum labeled used oil;

- Pallet 2 – Empty;
- Pallet 3 – Two 55-gallon drums, each labeled universal waste batteries and dated November 15, 2022;
- Pallet 4 – Empty;
- Pallet 5 – One 55-gallon drum labeled hazardous waste paint waste liquid, dated November 30, 2022, and one 55-gallon drum labeled hazardous waste carbon filtercake, dated November 30, 2022;
- Pallet 6 – Empty;
- Pallet 7 – One 55-gallon drum labeled hazardous waste isopropyl alcohol (50% AK, 50% flammable liquid) and dated November 09, 2022;
- Pallet 8 – Empty;
- Pallet 9 – Empty; and
- Pallet 10 – Empty.

Building 8100 SAAs:

The inspectors observed four SAAs within the laboratories at Stennis. The first SAA, located in the Environmental Lab 112K, is used to accumulate hazardous wastes generated from laboratory activities that occur in this room. The inspectors observed two 5-gallon buckets within a secondary containment bin in this SAA. The first bucket, which was approximately 2/3 full, was labeled hazardous waste metals standard and prep waste. The second bucket, which was empty, was labeled hazardous waste mercury prep and analysis waste. Neither container was marked with an indication of the hazards of its contents.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(5)(ii)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers with an indication of the hazards of the contents.

In an email dated January 11, 2023, John Boffenmyer provided the inspectors with photographs documenting that facility personnel had marked each of these containers to indicate the hazards of its contents.

The second SAA, located in the Environmental Lab 112L, is used to accumulate hazardous wastes generated from laboratory activities that occur in this room. The inspectors observed a two-tiered cart holding numerous 5-gallon or smaller containers of wastes generated in this laboratory. The inspectors observed one 5-gallon container labeled cyanide prep and analysis waste, one 5-gallon container labeled mercury prep and analysis waste, one 5-gallon container labeled metals prep and analysis waste, one 1-liter container labeled Nessler reagent waste, and numerous other smaller containers of waste in this SAA. The 1-liter container labeled Nessler reagent waste, was not labeled with the words “hazardous waste,” and the 5-gallon containers of prep and analysis wastes and the 1-liter container of Nessler reagent waste were not marked with an indication of the hazards of their contents.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (i) with the words “hazardous waste,” and (ii) with an indication of the hazards of the contents.

In an email dated January 11, 2023, John Boffenmyer provided the inspectors with a photograph documenting that facility personnel had marked the 5-gallon container of cyanide prep and analysis waste to indicate the hazards of its contents.

Facility personnel maintain a written inventory list that is updated each time a waste container is added to this SAA. The inventory list is submitted with the waste removal form when laboratory personnel request a pickup of hazardous waste. Personnel explained that hazardous waste labels in the laboratory SAA are added as a precaution in case the Lead Hazardous Waste Specialist confirms that the wastes are hazardous. The Lead Hazardous Waste Specialist picks up the waste containers from this SAA, transfers them to the CAA, and performs a final hazardous waste determination on each container. Clean Harbors personnel create lab packs of the laboratories' smaller hazardous containers for transporting to the designated hazardous waste treatment, storage or disposal facility. Many of the small containers were marked with an indication of the hazards of their contents as part of the original product label identifying the waste, but some were not marked with an indication of the hazards of their contents.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(5)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers (i) with the words "hazardous waste," and (ii) with an indication of the hazards of the contents.

In an email dated January 11, 2023, John Boffenmyer provided the inspectors with a photograph documenting that facility personnel placed several of the smaller hazardous waste containers into a single cardboard box, which was then closed, labeled as hazardous waste, and marked to indicate the hazards of its contents.

The inspectors also observed one 5-gallon bucket in the Environmental Lab 112L for accumulating universal waste batteries. The bucket was closed, labeled universal waste batteries, and marked with an accumulation start date of April 21, 2022.

The third SAA, located in the Gas/Calibration Lab 115, is used to accumulate various hazardous wastes generated in this laboratory. The inspectors observed the following containers in this SAA:

- One 5-gallon container labeled hazardous waste hydraulic oil waste (85% hydraulic oil, 14% AK225 G/Solstice PF, 1% kerosene),
- One 5-gallon container labeled hazardous waste hydraulic oil waste (75% hydraulic oil, 25% vacuum oil),
- One 1-liter container labeled hazardous waste tetrachloroethylene waste,
- One 5-gallon container labeled hazardous waste WR-0137, AK 225G waste constituents (99% AK 225 G/Solstice PG, <1% mineral oil),
- One 5-gallon container labeled hazardous waste aerosol cans,
- One 5-gallon container labeled hazardous waste solvent waste and solvent and oily rags,
- One 1-gallon container labeled hazardous waste Clor-N-oil waste removal, and
- One 1-liter container labeled hazardous waste anolyte and catholyte waste.

Each container was closed and marked with an indication of the hazards of its contents.

The fourth SAA in Building 8100 was located in the Custodial Area. The inspectors observed one 55-gallon drum labeled universal waste aerosol cans and one 5-gallon container labeled universal waste batteries in the Custodial area. The 55-gallon drum was marked with an accumulation start date of December 12, 2022, and the 5-gallon container was marked with an accumulation start date of October 5, 2022.

Building 9114 “The Shop” SAAs (Former Army Ammunition Plant) HVAC Area:

At the time of the inspection, Stennis was managing one SAA for accumulating hazardous waste generated in the HVAC area of the Shop. The inspectors observed two 30-gallon drums in this SAA. The first drum was equipped with a latched flip-top lid; it was labeled hazardous waste solvent rags; and it was marked with an indication of the hazards of its contents. The second drum was also equipped with a latched flip-top lid; it was labeled hazardous waste aerosol cans; and it was marked with an indication of the hazards of its contents. Stennis personnel confirmed that Stennis is in the process of converting the management of used aerosol cans in this container to the universal waste management program.

The inspectors also observed one 5-gallon container labeled universal waste batteries in this area. This container was marked with an accumulation start date of April 21, 2022.

Building 9114 “The Shop” SAAs (Former Army Ammunition Plant) 101A Plumbing Area:

At the time of the inspection, Stennis was managing one SAA for accumulating hazardous waste generated in the Plumbing area of the Shop. The inspectors observed one 55-gallon drum and one 30-gallon drum in this SAA. The 55-gallon drum was labeled hazardous waste aerosol cans and marked with an indication of the hazards of its contents. The 30-gallon drum was equipped with a latched flip-top lid; it was labeled hazardous waste solvent and oily rags; and it was marked with an indication of the hazards of its contents. Because Stennis is in the process of converting the management of used aerosol cans to the universal waste management program, it appears that the total volume of hazardous waste in this SAA does not exceed 55-gallons.

Building 9114 “The Shop” SAAs (Former Army Ammunition Plant) Heavy Equipment Area:

At the time of the inspection, Stennis was managing one SAA for accumulating hazardous waste generated in the Heavy Equipment area of the Shop. The inspectors observed two 30-gallon drums in this SAA. The first drum was equipped with a latched flip-top lid; it was labeled hazardous waste aerosol cans; and it was marked with an indication of the hazards of its contents. The second 30-gallon drum was also equipped with a latched flip-top lid; it was labeled hazardous waste solvent and oily rags; and it was marked with an indication of the hazards of its contents. The total volume of hazardous waste in this SAA did not appear to exceed 55-gallons.

Building 9114 “The Shop” SAAs (Former Army Ammunition Plant) Carpentry Area:

At the time of the inspection, Stennis was managing one SAA for accumulating hazardous waste generated in the Carpentry area of the Shop. The inspectors observed one 30-gallon drum in this SAA. The drum was equipped with a latched flip-top lid; it was labeled hazardous waste adhesives; and it was marked with an indication of the hazards of its contents. Although the inspectors observed a bead blast machine in the Carpentry area, the machine was not operational and it did not appear to contain any bead blast media.

Building 9114 “The Shop” SAAs (Former Army Ammunition Plant) Paint Shop Area:

At the time of the inspection, Stennis was managing four SAAs for accumulating hazardous waste generated in the Paint Shop area of the Shop.

- The inspectors observed one 55-gallon drum in the first SAA, which was located in the hallway outside of the Paint Shop work area. The drum was labeled hazardous waste aerosol cans, and it was marked with an indication of the hazards of its contents. Stennis personnel confirmed that Stennis is in the process of converting the management of used aerosol cans in this container to the universal waste management program.
- The inspectors observed one 30-gallon drum in the second SAA, which was also located in an area of the hallway outside of the Paint Shop work area. This drum was labeled hazardous waste solvent and oily rags, and it was marked with an indication of the hazards of its contents.
- The inspectors observed one 55-gallon drum in the third SAA, which was located in the corner of the hallway outside of the Paint Shop work area. This drum was equipped with a latched flip-top lid; it was labeled hazardous waste lead contaminated paint; and it was marked with an indication of the hazards of its contents.
- The inspectors observed one 55-gallon drum in the fourth SAA, which was located inside the Paint Shop work area near the bay door. This drum was equipped with a latched flip-top lid that is designed to hold an inverted 5-gallon bucket so that the contents of the bucket can drain into the drum. The drum was labeled hazardous waste paint waste and it was marked with an indication of the hazards of its contents.

The inspectors also observed another bead blast unit inside the Paint Shop work area. Personnel explained that this unit is used to remove mill scale from new, bare metal parts before they are painted, and that used blast media generated in this unit is managed as nonhazardous solid waste and disposed of in a landfill.

33-05 High-Pressure Gas Complex Facility SAA:

At the time of the inspection, Stennis was managing one SAA for accumulating hazardous waste generated in the High-Pressure Gas Complex Facility. The inspectors observed one 30-gallon drum and one 5-gallon container on a spill pallet in this SAA. The drum was labeled hazardous waste solvent and oily rags, and it was marked with an indication of the hazards of its contents. The 5-gallon container was labeled hazardous waste aerosol cans, and it was marked with an indication of the hazards of its contents.

The inspectors also observed three 55-gallon drums of used oil surrounded by approximately ten 1-gallon containers with oil residuals in this area. Each 55-gallon drum was labeled used oil, and one was equipped with an open funnel which held filters that were draining into the drum. The 1-gallon containers of residual oil had been staged in this area so that their contents could be transferred into the 55-gallon used oil drums.

4400 High-Pressure Industrial Water SAA:

At the time of the inspection, Stennis was managing two SAA for accumulating hazardous waste generated in the High-Pressure Industrial Water area.

- The inspectors observed one 30-gallon drum in the first SAA. The drum was labeled hazardous waste adhesives and it was marked with an indication of the hazards of its

contents. The inspectors also observed one 30-gallon drum labeled universal waste aerosol cans and dated December 15, 2022, near the first SAA.

- The inspectors observed one 30-gallon drum and one 5-gallon bucket in the second SAA. The 30-gallon drum was labeled hazardous waste solvent and oily rags, and it was marked with an indication of the hazards of its contents. The 5-gallon bucket was located inside a flammable locker. The bucket was labeled hazardous waste titrates, but it was not marked with an indication of the hazards of its contents. Stennis personnel explained that the indication of hazard sticker had fallen off of the container and would be replaced.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(5)(ii)], which is a condition of the SAA Permit Exemption, a generator is required to mark or label its containers with an indication of the hazards of the contents.

In an email dated January 11, 2023, John Boffenmyer provided the inspectors with a photograph documenting that facility personnel marked the 5-gallon bucket to indicate the hazards of its contents.

The inspectors also observed four 55-gallon drums inside that High-Pressure Industrial Water area. The first two drums were labeled oily rags; the third was labeled used oil; and the fourth was labeled used oily plastic jugs.

A1 Test Stand 4120 SAA:

At the time of the inspection, Stennis was managing one SAA on Level 7 for accumulating hazardous waste generated at the A1 Test Stand. The inspectors observed one 55-gallon drum in this SAA. The drum was labeled hazardous waste solvent and oily rags and it was marked with an indication of the hazards of its contents. The inspectors observed a second 55-gallon drum and a 5-gallon bucket in this area. The 55-gallon drum was equipped with a funnel, and it was labeled as used oil. The 5-gallon bucket was labeled as universal waste batteries.

The inspectors observed a second SAA in this area. Stennis personnel explained that companies such as Arrowjet Rocketdine perform specific functions related to building the engine and hooking it up before NASA performs the actual testing activities. These companies manage hazardous wastes generated by their activities under their own hazardous waste management program, and NASA personnel routinely audit these programs. Because NASA and the contractor appear to be co-generators of this hazardous waste, each party may be liable in the event that violation(s) of any applicable hazardous waste management regulations leads to an enforcement action. At the time of the inspection, Arrowjet Rocketdine was managing the second SAA to accumulate hazardous waste generated by their activities.

Contingency Plan:

The actions that facility personnel should take in response to an emergency are described in the facility's Contingency Plan, which was last updated in December 2021. The plan describes actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden solid, liquid or atmospheric releases of hazardous waste or hazardous waste constituents at the facility; it describes mutual aid agreements with the City of Picayune, the St. Tammany Fire District, the Diamond Fire Protection District, and Hancock County; it lists the

names and emergency telephone numbers for persons identified as emergency contacts as well as the name and emergency telephone number for the individual identified as the emergency coordinator; and it includes an evacuation plan for personnel, which describes signal(s) to be used to begin evacuation, evacuation routes (for Building 2210 and sitewide), and alternate evacuation routes. The plan includes a list of the type, use and capabilities, and location of emergency equipment at the facility. The list includes equipment for firefighting and emergency response and chemical protection, such as plumbed eyewash stations, safety glasses, safety showers, fire alarm boxes, fire extinguishers, absorbents, berms/dikes, overpack drums, telephones, and the fire safety system.

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; maps of the buildings where SAAs are managed, and a map of the CAA and routes for accessing these areas; a street map of the facility in relation to surrounding businesses, schools and residential areas; the locations of water supply; the identification of on-site notification systems; and the name of the emergency coordinator(s) and emergency telephone number(s). The following hazardous wastes were identified in the quick reference guide:

Waste	Maximum volume
Paint, solvent, metal contaminated rags / debris	1,000 gallons
Acid solutions	50 gallons
Caustic solutions	50 gallons
Aerosol cans	110 gallons
Abrasive from surface preparation	550 gallons
Metal surface / finishing solutions	55 gallons
Paint related flammable solvent liquids	500 gallons
Gasoline	55 gallons
Labpack - oxidizer / organic peroxide	10 gallons
Labpack – metals / solvents	55 gallons
Labpack – toxic wastes	55 gallons
Labpack – acids / caustics	55 gallons

Training Records:

On January 11, 2023, John Boffenmyer provided facility job descriptions and employee names for the Environmental Manager, Environmental Engineer, and Environmental Specialist. Each description included the requisite skill, education, or other qualifications, and duties of facility personnel assigned to that position, and the names of current and former Stennis employees filling those positions. Records showed that the Lead Hazardous Waste Specialist most recently received hazardous waste training from an outside source on December 16, 2022. According to Stennis personnel, this employee offers training to personnel working in SAAs or universal

waste accumulation areas every month. No discrepancies with training records for hazardous waste personnel were identified.

Waste Manifest Records:

The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent during calendar years 2020, 2021, and 2022.

Inspection Records:

The inspectors reviewed available records of inspections of the hazardous waste CAA during calendar year 2022. The inspection log includes a checklist to record observations about warning signs, spill control, container grounding, container condition, closed containers, hazardous waste and content labels, accumulation start date, drum scale and calibration, separation of incompatibles, housekeeping, aisle space, communication equipment, spill control, PPE, fire extinguishers, and safety shower function check. The records include the date of the inspection and the name of the employee conducting the inspection.

12) Closing Conference

The inspectors conducted the exit meeting at 4:00 PM with John Boffenmyer, Kristyn Mauffray, Michael Atkinson, and David Lorange. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

Although job titles and job descriptions for personnel managing hazardous waste were available at the CAA, those records were not reviewed during the inspection because the inspectors requested the records after the facility tour. Instead, Stennis personnel agreed to email the records to the inspectors after the inspection. On January 11, 2023, John Boffenmyer provided the inspectors with copies of those records and with photographs documenting various actions that had been taken to comply with container management standards.

13) Signed

**LAURIE
DIGAETANO**

Laurie Benton DiGaetano
Environmental Engineer

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DIGAETANO
Date: 2023.03.01 16:28:36 -05'00'

Concurrence

**ARACELI
CHAVEZ**

Araceli B. Chavez
RCRA Enforcement Section

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