

MODULE IX

AIR EMISSION STANDARDS

[40 CFR §§264.179, 264.200, 264.600, 264 Subparts BB and CC, 270.32(b)(2)]

IX.A. 40 CFR 264 SUBPART BB APPLICABILITY –EQUIPMENT LEAKS

IX.A.1. The permittee shall follow the procedures and requirements specified by 40 CFR §§264.1050 through 264.1065.

IX.A.2. The permittee shall determine for each piece of equipment specified by 40 CFR §264.1050 whether this equipment contains or contacts a hazardous waste or hazardous waste residue that equals or exceeds 10 percent by weight organic concentration using the analytical test methods and procedures in Attachment 2 (Waste Analysis Plan).

i. The permittee shall maintain records of these determinations as required by 40 CFR 264.1064.

ii. The permittee shall modify Table 12 of Attachment 3 (Inspection Schedule), via a permit modification, to reflect the addition of equipment regulated under 40 CFR §264.1050 if the waste determination required under IX.A.2 indicates that any part of 40 CFR §264.1052 through §264.1060 applies to the equipment.

IX.A.3. The permittee shall mark each piece of equipment covered by the requirements set forth by 40 CFR §264.1050(d) in such a manner that the equipment can be readily distinguished from other pieces of equipment.

IX.A.4. Equipment may be excluded from the requirements of 40 CFR §264.1052 through §264.1060 and Conditions IX.C and IX.D if the permittee identifies the equipment and demonstrates that the identified equipment contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period less than 300 hours per calendar year.

i. In order to demonstrate the ancillary equipment associated with the Brine Reduction Area, Spent Decontamination, and Spill Tank Systems; and the Munitions Demilitarization

Building HVAC system are exempt from portions of the 40 CFR Subpart BB requirements, the permittee shall maintain in the operating record the waste determinations showing the systems do not contact hazardous waste or hazardous waste residues with a VO concentration greater than 10 percent by weight or if the equipment does not contact hazardous waste or hazardous waste residues with a VO concentration greater than or equal to 10 percent by weight, provide documentation to show that any such contact is for less than 300 hours per calendar year [40 CFR 264.1064(g)(6); 40 CFR 264.1064(k)(3)].

- ii. If analysis results demonstrate any of these systems are no longer exempt from the Subpart BB requirements, the permittee shall notify the Department no later than the next business day.

IX.B. CHANGE IN PROCESS

- IX.B.1. Except as described in Permit Condition IX.A.4, the permittee shall perform a waste determination as specified by Permit Condition IX.A.2 if there is a change in process that could increase the total organic content of waste contacted by the equipment or the addition of new waste management units.
- IX.B.2. The permittee shall modify Table 12 of Attachment 3 (Inspection Schedule), via a permit modification, to add equipment regulated under 40 CFR §264.1050 if a waste determination as described in Conditions IX.A.2 and/or IX.B.1 indicates that any part of 40 CFR §264.1052 through §264,1060, except as allowed to be excluded under Permit Condition IX.A.4, applies to the equipment.

IX.C. SUBPART BB STANDARDS - EQUIPMENT

- IX.C.1. The permittee shall comply with the requirements of 40 CFR §264.1051 through 264.1060. The permittee shall demonstrate compliance with 40 CFR Subpart BB before the Munitions Demilitarization Building (MDB) heating, ventilating, and air conditioning (HVAC) carbon filters.
- IX.C.2. The permittee shall perform initial leak detection monitoring required by Permit Conditions IX.C and Attachment 3 (Inspection Schedule) by continuously monitoring for the presence of the campaign agent in the areas of the UMCDF identified in and in accordance with Table 2-2, Permit Attachment

2, and Table 12 of Permit Attachment 3 and in such a manner to meet the minimum leak detection procedures, requirements, and performance standards specified in Permit Table 9-3 and Permit Attachment 2 (WAP).

IX.C.3. The permittee shall use the action levels in Table 9-3 to determine whether the individual piece of equipment that is regulated by Subpart BB is leaking. Agent detected at or above the levels indicated in Table 9-3 shall constitute a leak detection requiring monitoring and repair. The permittee shall perform Subpart BB leak monitoring as follows.

- i. If a leak is initially detected in any equipment in an agent processing area in accordance with 40 CFR §264.1058(a) or Permit Conditions IX.C.2 and IX.C.3, that leak shall be monitored for agent within five days of the leak detection using an ACAMS in accordance with the requirements of Table 9-1 and Table 9-3. The method used for monitoring will be Method 21 from 40 CFR, Part 60, as modified per Table 9-1 using an ACAMS for agent.
- ii. The challenge, calibration, and operation of the ACAMS and DAAMS will comply with Attachment 2 (Waste Analysis Plan), Appendix C requirements, except as modified per Table 9-1.

IX.D. **LEAKING EQUIPMENT**

IX.D.1. The permittee shall implement the corrective actions identified in Table 9-3 based on the Permit Conditions IX.C.2 and IX.C.3 ACAMS readings and the Table 9-3 action levels.

IX.D.2. The identification and repair of leaking equipment shall comply with Permit Condition IX.C and the additional requirements listed in Conditions IX.D.2.i through IX.D.2.vi.

- i. When a leak is detected in an agent-contaminated area, the permittee shall maintain a list in the operating record of leaking and affected equipment, and shall be included in the entry permit to meet the requirements of 40 CFR 264.1064(c). The list shall identify what equipment is leaking. If, prior to repair, monitoring shows the affected equipment is not leaking, the affected equipment will be removed from the list after two successive months of monitoring continue to show the affected equipment has ceased leaking.

- ii. The leaking equipment information required by IX.D.2.i may be removed from the operating record list and entry permits after the leak has been repaired or monitoring has been completed in accordance with Condition IX.D.2.i.
- iii. When a leak is detected, the permittee shall repair the leak as soon as practicable, but no later than 15 calendar days after it is detected except as provided in 40 CFR §264.1059. [40 CFR §264.1058(c)].
- iv. The permittee shall first attempt to repair the leak no later than five calendar days after each leak is detected. [40 CFR §264.1058(c)]
- v. The permittee shall maintain in the facility operating log, a part of the operating record, a list of areas where a leak is suspected, but the affected equipment has not been identified. Upon identification, the affected equipment will be identified in the facility operating log until repairs have been made.
- vi. All information associated with the leaking equipment shall be recorded in an inspection log and kept in the operating record. The record shall include the following information:
[40 CFR §264.1064(d)]
 - a. The instrument and operator identification numbers and the equipment identification number.
 - b. The date evidence of a potential leak was found in accordance with Permit Condition IX.C.3.i.
 - c. The date the leak was detected and the dates of each attempt to repair the leak.
 - d. Repair methods applied to each attempt to repair the leak.
 - e. “Above Action Level” if the maximum ACAMS reading measured in accordance with Permit Condition IX.D.1 after each repair attempt is equal to or greater than the action level identified in Table 9-3.

- f. "Repair Delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- g. Documentation supporting the delay of repair in compliance with 40 CFR §264.1059(c).
- h. The signature of the owner or operator, or designee, whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
- i. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
- j. The date of successful repair of the leak.

IX.E. SUBPART BB EQUIPMENT RECORDKEEPING AND REPORTING [40 CFR §264.1064]

IX.E.1. The permittee shall maintain a log for all equipment listed in Permit Conditions IX.A, IX.B, and IX.C. The log shall contain the following information.

- i. Equipment identification number and hazardous waste management unit identification.
- ii. Approximate location of the equipment within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).
- iii. Type of equipment (e.g., a pump or valve).
- iv. Percent of total organics by weight of the hazardous waste stream at the equipment
- v. Physical state (e.g., gas/vapor, or liquid) of hazardous waste at the equipment.
- vi. Method of compliance with the standard.

IX.E.2. The permittee shall record and maintain in the operating record a list of exempted equipment and support waste analysis as required by 40 CFR §264.1064(k) and the Waste Analysis Plan (Permit Attachment 2).

- IX.E.3. The permittee shall record and maintain in the operating record the inspection of equipment, detection of leaks, and repair of equipment.
- IX.E.4. The permittee shall submit a semiannual report no later than March 31 and September 30 of each year to the Administrator in accordance with 40 CFR §264.1065. The semiannual reporting period shall be defined as from March 1 to August 31 or from September 1 to February 28 (or February 29, if applicable) of each year, as applicable.
- IX.E.5. If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in §§264.1057(d), 264.1052(c), and (d)(6), and 264.1053(g), respectively, and the control device does not exceed or operate outside of the design specifications as defined in §264.1064(e) for more than 24 hours, a report to the Administrator in accordance with Permit Condition IX.E.4 is not required. [40 CFR §264.1065(b)]
- IX.E.6 In the event of a hazardous waste release due to a leak from the primary tank system into the secondary containment system, the primary tank system shall be repaired prior to returning the entire system to service, and all hazardous waste release reporting and recertification requirements shall be completed prior to restart of the affected system and portion of the building [40 CFR 264.1101(c)(3)].

IX.F. **40 CFR 264 SUBPART CC APPLICABILITY – TANKS AND CONTAINERS**

- IX.F.1. The permittee shall comply with the 40 CFR 264 Subpart CC (40 CFR 264.1080 through 264.1090) air emissions requirements for storage of hazardous waste in tanks and containers at the facility. The permittee shall demonstrate compliance with 40 CFR Subpart CC at the point of vapor release and before the MDB HVAC carbon filters.
- IX.F.2. The permittee is exempt from the requirements of 40 CFR 264.1082 provided the permittee demonstrates compliance with Permit Conditions IX.F.2.i, and IX.F.2.ii.
- i. All hazardous wastes entering a container, tank, or primary containment sump have an average VOC at the point of waste origination of less than 500 parts per million by weight (ppmw) as determined by Permit Condition IX.F.3; and

- ii. All waste determinations specified by Permit Condition IX.F.1 must be updated at least once every 12 calendar months following the date of the initial determination for hazardous waste streams entering the container and tank units to be exempted.

IX.F.3. If the permittee exempts the waste pursuant to Permit Condition IX.F.2, the permittee shall determine the VOC as follows: [40 CFR 264.1082(c)(1), 264.1083(a)(1)(ii)]

- i. Initial or change-of-process waste determinations, at the point of waste origination, for average VOC(s) of hazardous waste streams and treated waste streams identified in Attachment 2 (Waste Analysis Plan) shall be performed in accordance with Attachment 2, 40 CFR 264.1083, 40 CFR 265.1084(a)(3), and subject to the procedures and requirements of Appendix C to Attachment 2.
- ii. The permittee shall update all waste determinations as necessary and at least once every 12 months following the date of the initial determination for hazardous waste streams in accordance with Attachment 2 (Waste Analysis Plan).

IX.F.4. The permittee shall install, maintain, and operate in accordance with the design requirements of Permit Attachment 12, the closed system, and Level 1 controls required by Table 9-2 for the agent collection system, spill, spent decontamination system, and rinsate collection tank systems.

IX.F.5. To determine compliance with 40 CFR 264.1083 and 264.1084, the Administrator may at any time perform or request the permittee to perform a waste determination in accordance with 40 CFR §264.1082(d) for a hazardous waste managed in a tank or container exempted by the permittees under the provisions of Permit Condition IX.F.2 from using air emissions controls.

IX.F.6 The spill tanks or containers with Level 1 controls must be used to store pumpable quantities of wastes from a spill or release with a volatile organic (VO) concentration of 500 ppmw or greater. The permittee shall transfer agent collected from a major spill or release from the spill tank system or containers to the ACS tank system as soon as possible, but no later than 72 hours after the agent was initially stored in the spill tank system or containers, unless the permittee obtains DEQ approval for a longer period of time.

IX.F.7. The permittee is prohibited from treating hazardous waste subject to the requirements for containers, tanks, and primary containment sumps unless air emission control is maintained in accordance with 40 CFR 264.1084 through 1087.

IX.F.8. The permittee shall control air emissions from hazardous waste in containers for the container management units specified in Module III as specified by 40 CFR 264.1086 and in accordance with the control requirements of Table 9-2.

IX.F.9. Containers used for storage and not in the treatment process must be composed of suitable materials to minimize the exposure of VOCs to the atmosphere and the organic permeability of vapors. The container must form a vapor-tight seal.

IX.G. **INSPECTION AND MONITORING**

IX.G.1. The permittee shall monitor and inspect air emission controls in accordance with the Attachment 2 (Waste Analysis Plan) and Attachment 3 (Inspection Schedule) requirements.

IX.H. **SUBPART CC TANKS AND CONTAINERS RECORDKEEPING AND REPORTING**

IX.H.1. The permittee shall maintain records for each container or tank exempted, in accordance with Permit Condition IX.F.2, from the 40 CFR Subpart CC standards.

IX.H.2. For tanks and containers exempted from the Subpart CC requirements in accordance with Permit Condition IX.F, the permittee shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) including the date, time, and location for each hazardous waste sample collected in accordance with 40 CFR 264.1089(f)(1).

IX.H.3. For tanks and containers exempted under Permit Condition IX.F, the permittee shall record the identification number of the hazardous waste management unit(s) in which the hazardous waste is treated. [40 CFR 264.1089(f)(2)]

IX.H.4. The permittee shall notify the Administrator, within 24 hours of discovery, of each occurrence when hazardous waste is placed in a waste management unit identified in Module III or Module IV in

noncompliance with the conditions specified in Permit Condition IX.F. [40 CFR 264.1090(a), 270.30(1)(6)]

- IX.H.5. The permittee shall submit a written report within 15 calendar days of the time the permittee becomes aware of the occurrence specified in Permit Condition IX.H.4. The written report shall contain the EPA identification number, the facility name and address, a description of the noncompliance event and the cause, actions taken to correct the noncompliance and prevent recurrence of the noncompliance, and the report shall be signed and dated by an authorized representative in accordance with Permit Condition I.X. [40 CFR 264.1090(a)]
- IX.H.6. The permittee shall maintain the following information for all container management units identified in Module III that are subject to the air emission requirements of 40 CFR 264.1086: [40 CFR §§264.1088, 264.1089(d), 270.30(j), 270.32(b)]
- i. Type of container, type of air emission control, and records of inspections/monitoring information.
 - ii. For all container management units identified in Module III that are used to store containers for which the less-than-500 ppmv exemption is used, as specified in 40 CFR 264.1082(c), the permittee shall maintain the exemption/waste determination information required by IX.F.2.
 - iii. For containers using container Level 3 air emission controls, the permittee shall prepare and maintain records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T – Criteria for and Verification of a Permanent or Temporary Total Enclosure” under 40 CFR 52.741, Appendix B.
- IX.H.7. The permittee shall maintain the following information in the operating record for all tanks identified in Module IV that are subject to the air emission requirements of 40 CFR 264.1084.
- i. An identification number or other unique identification description of the tanks; [40 CFR 264.1089(b)(1)(i)]

- ii. Date of inspection; type, description, and location of defect; date of detection; corrective action taken to repair the defect, and, if repair of the defect is delayed in accordance with 40 CFR 264.1084, the reason for delay and the date that completion of repair of the defect is expected. [40 CFR 264.1089(b)(1)(ii)]
- iii. Each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of 40 CFR §264.1084(c). The records shall include the date and time the samples were collected, the analysis method used, and the analysis results. [40 CFR 264.1089(2)(i)]

IX.H.8. If the permittee designates a cover as “unsafe to inspect and monitor” pursuant to 40 CFR §264.1084(l), the permittee shall record in a facility operating record log the following information:
[40 CFR 264.1089(g)]

- i. The identification numbers for waste management units with covers that are designated as “unsafe to inspect and monitor,”
- ii. The explanation for each cover stating why the cover is unsafe to inspect and monitor, and
- iii. The plan and schedule for inspecting and monitoring each cover.

IX.I. **GENERAL AIR EMISSIONS CONTROL OPERATING REQUIREMENTS**

IX.I.1. The permittee shall comply with the organic emission standards for equipment leaks and control air emissions from hazardous waste containers and tank systems and as specified in this Module IX, Permit Condition II.O, Permit Condition II.P, Permit Attachment 2 (Waste Analysis Plan), and Permit Attachment 3 (Inspection Schedule) in accordance with the provisions of 40 CFR Subparts BB and CC.

IX.I.2. The ACS tanks, spill tanks, rinsate collection tanks, brine tanks, and spent decontamination system tanks shall cease to be subject to the requirements of 40 CFR Subparts BB and CC after tank operations for the last agent munitions campaign has been completed and confirmatory sampling confirms that the equipment does not contain or contact hazardous wastes with organic concentrations of at least 10 percent by weight and the average VO concentration is less than 500

ppmw. UMCDF tank operations shall be completed after all agent has been processed through the systems and the systems have been flushed and decontaminated with decontamination solution and confirmatory sampling confirms that the equipment does not contain or contact hazardous waste with organic concentrations of at least 10 percent by weight and the average VO concentration is less than 500 ppmw.

TABLE 9-1 FUGITIVE EMISSIONS MONITORING METHOD REQUIREMENTS

| 40 CFR, Part 60, Method 21 Requirements | UMCDF Requirement/Implementation | Modification Mitigation/Justification |
|---|--|--|
| A portable or area instrument will be used to monitor leaks for volatile organic compounds (VOCs) | The area ACAMS will be used or a portable monitor that is configured for the specific VOC (agent). | N/A |
| The VOC instrument detector shall respond to the compounds being processed, and both the linear response range and measurable range of the instrument shall encompass the leak concentration. | The ACAMS meets this criterion, being calibrated with the compound of interest. | N/A |
| The scale of the instrument meter shall be readable to $\pm 2.5\%$ of the specified leak definition concentration when performing a no detectable emission survey. | The ACAMS meter readout is digital, so the concentration is displayed with easy-to-read numbers. | N/A |
| The instrument shall be equipped with an electrically driven pump to ensure that a sample is provided to the detector at a constant flow rate. The rate will be 0.10 to 3.0 LPM, measured at the probe tip. | The ACAMS complies with this requirement, with a normal flow rate of 0.40 to 1.0 LPM. | N/A |
| The instruments shall be intrinsically safe, as defined by U.S.A. standards for use in any explosive atmospheres that may be encountered in its use. | The ACAMS sample line meets this requirement since the ACAMS unit is not inside the explosive environment. | N/A |
| The instrument shall be equipped with a probe or probe extension for sampling not to exceed one-fourth inch ($\frac{1}{4}$ ") outside diameter, with a single opening for admission of a sample. | The ACAMS meets this requirement. One-fourth inch ($\frac{1}{4}$ ") outside diameter is the standard for ACAMS sample lines and probes. | N/A |
| The instrument response factors for the VOC to be measured shall be less than 10. The response factor is the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the specified reference compound. | The ACAMS meets this criterion. | N/A |
| The instrument response time shall be equal to or less than 30 seconds, with all sampling equipment connected and operating. | The ACAMS does not meet this criterion, but this is a special application, sampling for a specific compound. | The ACAMS is the current technology for near-real-time agent sampling. Since the ACAMS must collect a sample before analysis, the 5-minute response time is the shortest response that can be obtained while still maintaining accurate results. |
| The calibration precision must be equal to or less than 10 percent of the calibration gas value. | The ACAMS meets this criterion, except that the ACAMS uses a liquid calibration standard. The calibration challenge must be $\pm 10\%$ of the target value. ^a | Liquid calibration standard instead of calibration gas is necessary for ACAMS operation. |

^a The challenge, calibration, and operation of the ACAMS shall comply with the Permit Attachment 2 (WAP), Appendix C, requirements and this attachment.

TABLE 9-2 ORGANIC AIR EMISSION CONTROLS FOR SPECIFIED HAZARDOUS WASTE MANAGEMENT UNITS

| HAZARDOUS WASTE MANAGEMENT UNIT ¹ | HAZARDOUS WASTE MANAGEMENT UNIT TYPE | DESCRIPTION OF AIR EMISSION CONTROL SYSTEM ² |
|---|---|--|
| J-Block Igloo Nos. J-1723 through 1774 and J-1777 through J-1782 | Container Storage | Level 1 Controls |
| Container Handling Building (CHB) - East Storage Area | Container Storage | Level 1 Controls |
| CHB-West Storage Area | | Level 2 Controls for ton containers |
| CHB-Unpack Area | | |
| Depressurization Glove Box | Miscellaneous Unit | Level 1 Controls |
| Munitions Demilitarization Building (MDB) Unpack Area | Container Storage | Level 1 Controls |
| MDB Explosive Containment Vestibules | | Level 2 Controls for ton containers Level 3 Controls for in-process open containers |
| MDB Explosive Containment Rooms | Container Storage | Level 1 Controls Level 3 Controls for in-process open containers |
| MDB Upper Buffer Storage Area | Container Storage | Level 1 Controls Level 2 Controls for ton containers Level 3 Controls for in-process open containers |
| MDB Upper Munitions Corridor | | |
| MDB Munitions Processing Bay | | |
| MDB Lower Buffer Storage Area | | |
| MDB Lower Munitions Corridor | | |
| MDB Toxic Maintenance Area "C" Airlock and Decontamination | | |
| MDB Toxic Maintenance Area "A/B" Decon Area | Container Storage | Level 1 Controls Level 3 Controls for in-process open containers |
| MDB Toxic Maintenance Area "A" Area | | |
| ACS-TANK-101 | Tank System | Level 1 Controls |
| ACS-TANK-102 | | |
| ACS-TANK-108 | | |
| ACS-TANK-401A | | |
| ACS-TANK-401B | | |
| RCS-TANK-101A | | |
| RCS-TANK-101B | | |
| Hazardous waste primary containment sump systems identified on Table 4-2 of this permit | Individual drain systems to SDS Tank System 101, 102, and 103 | Closed Systems |

1. Units as defined in Modules III, IV, and V of this permit.
2. Ton containers are subject to Subpart CC requirements upon receipt.

TABLE 9-3 ACTION LEVELS FOR VAPOR LEAKS

| AGENT | ACAMS TYPE | PREREPAIR LEVELS CONSTITUTING A SUSPECTED LEAK | | POSTREPAIR ACCEPTABLE LEVEL | | ACAMS READING EQUIVALENT TO | |
|-------|------------|--|----------------------------|-----------------------------|-----------|-----------------------------|-------------|
| | | | | | | 500 ppm | 10,000 ppm |
| HD | Stationary | >40 ECL | >1.84 ppm | N/A | | 10,870 ECL | 217,391 ECL |
| | Portable | >10 ECL above background | >0.46 ppm above background | <10 ECL above background | <0.46 ppm | | |

Notes: For HD 1 ECL = 0.046 ppm
 1 ECL = 0.01 mg/m³
 The background level is determined as the average of 2 stationary ACAMS readings
 Values provided are the differential value above the background readings