

MODULE X
AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS, TANKS, CONTAINERS,
AND THE HVAC

X.A. APPLICABILITY - EQUIPMENT LEAKS

- X.A.1. The Permittee shall follow the procedures and requirements specified by R315-8-18 [40 CFR 264.1050 through 264.1065].
- X.A.2. The Permittee shall, as required by R315-8-2.4, determine for each piece of equipment specified by R315-8-18 whether this equipment contains or contacts a hazardous waste or hazardous wastes residue that equals or exceeds 10 percent by weight organic concentration using the analytical test methods and procedures in Attachment 2 (Waste Analysis Plan). The Permittee shall maintain records of these determinations as required by R315-8-18 [40 CFR 264.1064].
- X.A.3. R315-8-18 applies to the equipment identified in Table 17-1 of Attachment 17 (Equipment Lists) that is associated with the management of agent in the Agent Collection System (ACS) tank system. The ACS tank system boundary begins at the suction wands at the drain locations (Bulk Drain Stations (BDSs) and Multipurpose Demilitarization Machines (MDMs) located in the Munitions Processing Bay (MPB) and includes equipment in the Upstairs Munitions Corridor (UPMC) and the Toxic Cubicle (TOX), and ends at the Liquid Incinerator (LIC) primary chambers.
- X.A.4. The Permittee shall mark each piece of equipment covered by the requirements set forth by R315-8-18 [40 CFR 264.1050(d)] in such a manner that the equipment can be distinguished readily from other pieces of equipment.

X.B. CHANGE IN PROCESS

- X.B.1. Except as described in Condition X.B.3, the Permittee shall perform a waste determination as specified by Condition X.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.
- X.B.2. The Permittee shall modify Table 17-2 in Attachment 17 (Equipment Lists), via a permit modification, to reflect the addition of equipment regulated under R315-8-18 if a waste determination as described in Conditions X.A.2. and X.B.1. indicates that R315-8-18 [40 CFR 264.1052 through 264.1060] applies to the equipment, other than that described in X.A.
- X.B.3. Equipment identified in Condition X.C. and Attachment 17 (Equipment Lists) may be excluded from the requirements of R315-8-18 [40 CFR 264.1052 through 264.1060], and Condition X.C. and X.D. if the Permittee demonstrates that the 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.

X.C. STANDARDS - EQUIPMENT

- X.C.1. The Permittee shall comply with the following requirements:
 - X.C.1.a. R315-8-18 [40 CFR 264.1054] for operation of pressure relief devices in gas/vapor service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.b. R315-8-18 [40 CFR 264.1058] for operation of pressure relief devices in heavy liquid service and light liquid service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.c. R315-8-18 [40 CFR 264.1058] for operation of connectors and flanges;
 - X.C.1.d. R315-8-18 [40 CFR 264.1058] for operation of pumps in heavy liquid service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.e. R315-8-18 [40 CFR 264.1057] for operation of valves in gas/vapor service defined by R315-8-18 [40 CFR 264.1031];
 - X.C.1.f. R315-8-18 [40 CFR 264.1055] for operation of sampling equipment connections systems outlined in Tables 17-1 and 17-2 in Attachment 17 (Equipment Lists);
 - X.C.1.g. R315-8-18 [40 CFR 264.1056] for operation of open ended valve or lines identified in Table 17-1 and Table 17-2 of Attachment 17 (Equipment Lists); and
 - X.C.1.h. R315-8-18 [40 CFR 264.1053] for operation of applicable compressors.
- X.C.2. The Permittee shall perform leak detection monitoring required by Conditions X.C., and X.D., in such a manner to meet the minimum leak detection procedures, requirements, and performance standards specified in Section 22.38 of Attachment 22 (Agent Monitoring Plan).

X.D. LEAKING EQUIPMENT

- X.D.1. The identification and repair of leaking equipment shall comply with Condition X.C. and the additional requirements listed in Conditions X.D.1.a through X.D.1.c.
 - X.D.1.a. As soon as conditions allow an entry, equipment shall be tagged with an identification number and the date the leak was detected. The tag shall be readily visible as outlined in R315-8-18 [40 CFR 264.1064].
 - X.D.1.b. The identification tag required by X.D.1.a. may be removed after the leak has been repaired.
 - X.D.1.c. Information associated with the leaking equipment shall be recorded and kept in the Operating Record for a minimum of three years. The record shall include the following information:
 - X.D.1.c.i. The equipment identification number.

- X.D.1.c.ii. The date the leak was detected and the dates of each attempt to repair the leak.
- X.D.1.c.iii. Repair methods applied to each attempt to repair the leak.
- X.D.1.c.iv. “Repair Delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- X.D.1.c.v. Documentation supporting the delay of repair of a valve in compliance with 40 CFR 264.1059(c).
- X.D.1.c.vi. The signature of the Plant Shift Manager (or designee) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
- X.D.1.c.vii. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
- X.D.1.c.viii. The date of successful repair of the leak.

X.F. RECORDKEEPING AND REPORTING

- X.F.1. The Permittee shall maintain a log for all equipment listed in Conditions X.A. and X.B. The log shall contain the following information:
 - X.F.1.a. Equipment identification number and waste management unit identification;
 - X.F.1.b. Approximate location of the equipment within the facility;
 - X.F.1.c. Type of equipment;
 - X.F.1.d. Percent of total organics by weight of the hazardous waste stream at the equipment;
 - X.F.1.e. Physical state (e.g., gas, vapor or liquid) of hazardous waste at the equipment; and
 - X.F.1.f. Method used to achieve compliance with R315-8-18.
- X.F.2. The Permittee shall record, in the Operating Record, a list of exempted equipment and supporting waste analysis as required by R315-8-18 [40 CFR 264.1064(k)].
- X.F.3. The Permittee shall record, in the Operating Record, the inspection of equipment, detection of leaks, and repair of equipment.
- X.F.4. The Permittee shall submit a semi-annual report each August 1 and February 1 to the Executive Secretary in accordance with R315-8-18 [40 CFR 264.1065]. The semi-annual reporting period shall be defined as from January 1 to June 30 or from July 1 to December 31.
- X.F.5. A report to the Executive Secretary, in accordance with Condition X.F.4., is not required for the leaks that are detected and repaired as required by Conditions X.C. and X.D

X.G. APPLICABILITY - TANKS AND CONTAINERS

- X.G.1. The Permittee shall comply with the requirements of R315-8-22, air emission standards for storage of hazardous waste in tanks and containers at the facility.

- X.G.2. The Permittee is exempt from the requirements of R315-8-22 [40 CFR 264.1084 through 1087] provided the Permittee demonstrates compliance with X.G.2.a. and X.G.2.b. or demonstrates compliance with X.G.2.c.

 - X.G.2.a. All hazardous wastes entering a container, tank, or primary containment sump have an average volatile organic concentration (VOC) at the point of waste origination of less than 500 parts-per-million by weight as determined by Condition X.G.3.;

 - X.G.2.b. All waste determinations specified by Condition X.G.1., have been updated at least once every 12 months following the date of the initial determination for hazardous waste streams entering container and tank units to be exempted;

 - X.G.2.c. The VOC of the hazardous waste has been treated by an organic destruction or removal process that satisfies any one of the requirements and conditions of R315-8-22 [40 CFR 264.1082(c)(2)], provided the VOC of the treated wastes have been determined by Condition X.G.3. for treated wastes which are not controlled and monitored as required by R315-8-22 [40 CFR 264.1084 through 1087].

- X.G.3. If the Permittee exempts the waste pursuant to Condition X.G.2., the Permittee shall determine the VOC as follows:
 - X.G.3.a. 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 (Waste Analysis Plan), R315-8-22 [40 CFR 264.1083, which references 40 CFR 265.1084(a)(3)], and subject to the procedures and requirements of Attachment 3 (Sampling, Analytical, and QA/QC Procedures).

 - X.G.3.b. The Permittee shall update all waste determinations as necessary at least once every 12 months following the date of the initial determination for hazardous waste streams.

- X.G.4. Except as allowed by X.G.5., the Permittee shall follow Attachment 2 (Waste Analysis Plan) to determine the maximum organic vapor pressure (MOVP) for hazardous wastes in tanks using level one control specified by R315-8-22 [40 CFR 264.1084] through direct measurement to include a sufficient number of samples to be representative of the waste contained in the tank in accordance with Attachment 2 (Waste Analysis Plan). Within 30 days after sample collection, the MOVP data and results shall be submitted to the Executive Secretary to meet the requirements of R315-8-22 [40 CFR 264.1084] for MOVP analysis. Samples shall be taken in accordance with Attachment 2 (Waste Analysis Plan).

- X.G.5. The Permittee may choose to use generator knowledge to determine the MOVP for hazardous waste in tanks as outlined by R315-8-22 [40 CFR 264.1083(c)].

- X.G.6. The Permittee shall update all vapor pressure tests as necessary, at least once every 12 months, following date of initial determination for hazardous waste entering tank units.
- X.G.7. The Executive Secretary may request a waste characterization to determine compliance with R315-8-22.
- X.G.8. 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 R315-8-22 [40 CFR 264.1084 through 1087].
- X.G.9. Reserved.
- X.G.10. The Permittee shall control air emissions from hazardous waste in containers for the container management units identified in Table 2 as specified by R315-8-22 [40 CFR 264.1086] and as follows:
- X.G.10.a. For containers with a design capacity greater than 26 gallons and less than 121 gallons, air emissions shall be controlled by level one control as specified by R315-8-22 [40 CFR 264.1086(c)].
- X.G.10.b. For containers with a design capacity greater than 121 gallons, which are in light material service as defined by R315-7-30 [40CFR 265.1081], air emissions shall be controlled by level two control as specified by R315-8-22 [40 CFR 264.1086(d)].
- X.G.10.c. For containers with a design capacity greater than 121 gallons, which are not in light material service as defined by R315-7-30 [40CFR 265.1081], air emissions shall be controlled by level one control as specified by R315-8-22 [40 CFR 264.1086(c)].
- X.G.11. Containers used for storage 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.
- X.G.12. The Permittee shall control air emissions from hazardous waste tanks used as primary containment devices in accordance with R315-8-22 [40 CFR 264.1084] for the tanks identified in Table 2.
- X.G.13. The requirements of R315-8-22 and this Module do not apply to the following management units regardless of the waste determination:
- X.G.13.a. Containers that have a design capacity less than or equal to 0.1m³;
- X.G.13.b. Satellite containers;
- X.G.13.c. Process bulk feed tanks.
- X.G.14. For Area 10 Igloo 1631 (Autoclave) and Igloo 1632 (DVS/DVSSR) miscellaneous treatment units, air emissions shall be controlled by level three controls as specified in R315-8-22 (40 CFR264.1086(e)).

X.H. INSPECTION AND MONITORING

- X.H.1. The Permittee shall follow the inspection plan and schedule in Attachment 5 (Inspection Plan).
- X.H.2. The Permittee shall monitor air emission controls as specified in Attachment 22 (Agent Monitoring Plan).
- X.H.3. If any container greater than 0.1m³ in capacity (e.g., 55 gallon drum or ton containers) is stored for a period of one year or longer, the Permittee shall visually inspect the container and its cover and closure devices initially and thereafter at least once every 12 months. The container shall be inspected for visible cracks, holes, gaps, or other open spaces into the interior of the container. For storage in the Container Handling Building (CHB) and Unpack Area (UPA), monitoring of the interior of the overpack can be used instead of this visual inspection.
- X.H.4. With the exception of ton containers the Permittee shall make a first attempt at repair of any defect detected during the inspection described in Condition X.H.3. no later than 24 hours after detection. Repair shall be completed as soon as possible but no later than five calendar days after detection. If repair of the defect cannot be completed within five calendar days, the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired. Any ton container with a defect shall be managed as described in Attachment 5 (Inspection Plan) and Attachment 12 (Containers).
- X.H.5. The Permittee shall inspect containers and maintain a record of the inspections and a copy of the procedure used to determine that containers with a capacity of 0.46m³ or greater, which do not meet applicable DOT regulations as specified by R315-8-22 [40 CFR 264.1086(f)], are not managing hazardous waste in light material service.

X.I. RECORDKEEPING AND REPORTING

- X.I.1. The Permittee shall maintain records for each container or tank exempted from the standards of Condition X.G.
- X.I.2. As required by R315-8-22 [40 CFR 265.1084(b)(2)] and Attachment 2 (Waste Analysis Plan), the Permittee shall record the information from each exempted hazardous waste determination as identified in Condition X.G. (e.g., test results, measurements, calculations and other documentation) including the date, time, and location for each hazardous waste sample collected.
- X.I.3. If exempted under Condition X.G., the Permittee shall record the identification number of the hazardous waste management unit in which the waste is treated.
- X.I.4. The Permittee shall orally report to the Executive Secretary, within 24 hours, each occurrence when hazardous waste is placed in a waste management unit identified in Table 2 or Table 4 in noncompliance with the conditions specified in Condition X.G.

- X.I.5. The Permittee shall submit a written report within 15 calendar days of the time the Permittee becomes aware of the occurrence specified in Condition X.I.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 a authorized representative of the Permittee.
- X.I.6 The Permittee shall maintain the following information for all container management units identified in Table 2 that are subject to the air emission requirements of R315-8-22 [40 CFR 264.1086]: type of container; type of air emission control; and records of Inspections/Monitoring Information with the required information specified below:
- X.I.6.a. For all container management units identified in Table 2 that are used to store containers having a design capacity greater than 121 gallons, the Permittee shall maintain the information used to determine the status of the material as either light or heavy in accordance with R315-7-30 [40 CFR 265.1081].
- X.I.6.b. For all container management units identified in Table 2 that are used to store containers for which the less than 500 ppmv exemption is used, as specified in R315-8-22 [40 CFR 264.1082(c)], the Permittee shall maintain the exemption/waste determination information in Condition X.I.6.
- X.I.7. The Permittee shall maintain the following information in the Operating Record for all tanks subject to the air emission requirements of R315-8-22 [40 CFR 264.1084], identified in Table 2:
- X.I.7.a. An identification number or other unique identification description of the tanks;
- X.I.7.b. Date of inspection; type, description, and location of defect; date of detection; and corrective action taken to repair the defect; and
- X.I.7.c. Maximum organic vapor pressure of the hazardous waste in the tank, determined in accordance with Condition X.G. Where applicable, the determination shall include the date and time samples were taken, the analytical method used, and the analytical results.

X.J. GENERAL OPERATING CONDITIONS

X.J.1. HVAC

- X.J.1.a All HVAC filter units and filter unit vestibules shall be maintained at a negative pressure. These pressures will be recorded every four hours in the Operating Record. These pressures will also be recorded each time the unit's operating status is changed. If any of these readings are found to be positive, agent-processing operations within the facility shall cease immediately. A description of the filter system is located in Attachment 5 (Inspection Plan), Paragraph 5.9.
- X.J.1.b. Seven HVAC filter units shall be operational at all times when any hazardous waste is being managed. During power upsets, the facility shall follow contingency procedures Attachment 9 (Contingency Plan) Paragraph 9.4.13.5.1 for maintaining negative pressure.

X.J.1.c. The Permittee shall comply with Attachment 5 (Inspection Plan) for the inspection of the HVAC filter units. For the purpose of compliance with these conditions, each filter unit is defined as beginning at the inlet flange of the filter unit inlet isolation damper and ending at the outlet flange of the filter unit outlet damper.

X.J.2 Area 10 Igloos 1631 and 1632

X.J.2.a The Permittee may perform permitted hazardous waste management activities in Igloos 1631 and 1632 when Filter-101 (primary filter) is online.

X.J.2.b The Permittee shall suspend operations of the Autoclave, DVS and DVSSR and seal or remove all waste drums from Igloos 1631 and 1632 during times when Filter-101 is offline and Filter-102 is online.

X.K. **REPLACEMENT OF CARBON FILTER BANKS**

X.K.1. The Permittee shall notify the Executive Secretary within seven days after a confirmed breakthrough of chemical agent at 3 Vapor Screening Level (VSL) for GB, VX, and for HD in carbon bank number two of any one of the nine carbon filter units. Within 30 days from the time of the confirmed breakthrough, the Permittee shall begin operations to replace carbon banks one and two in that unit. If any confirmed agent breakthrough is detected in any other carbon filter midbed (other than midbed #1 or 2), the Executive Secretary shall be notified within 24 hours. The Permittee shall begin operations to replace the carbon banks associated with the confirmed readings within 30 days of the confirmed breakthrough.

X.K.2. The Permittee shall perform the analyses for spent carbon removed from a filter bank in accordance with the Attachment 2 (Waste Analysis Plan). This data shall be maintained in the Operating Record.

X.K.3. The Permittee shall, at a minimum of every 18 months, perform leak test challenges on MDB HVAC carbon filters. The CAL carbon filters shall be leak test challenged at a minimum of every 12 months. If one or more trays in a bank are replaced, or if maintenance to a bank is preformed that could affect the filter's integrity or leak-tightness additional leak tests shall be performed on the affected banks before that filter is placed on line.

X.K.4. At the MDB HVAC carbon filter units, periodic (18-month) leak test challenges are not required for carbon banks one and two, and for any carbon bank three that has been exposed to confirmed agent breakthrough of carbon bank two. At the CAL HVAC exhaust filter units, periodic leak test challenges are not required for carbon bank one and for any carbon bank two that has been exposed to confirmed agent breakthrough of carbon bank one. The challenge data shall be submitted within fifteen days of completion of each complete filter blank challenge to the Executive Secretary.

X.K.5 The Carbon Adsorption Filtration system (primary or back-up) for Igloos 1631 and 1632 shall have the first carbon filter bed replaced when any agent is detected between the first and second midbeds at a concentration greater than or equal to 1.0 VSL. Within 15 days from the time the midbed agent concentration reaches 1.0 VSL, the Permittee shall begin operations to replace the carbon in the affected unit.

X.K.6 If agent is detected beyond the second carbon bed at the exhaust stack of the Igloos Carbon Adsorption Filtration system, then hazardous waste treatment and primary containment operations shall be immediately stopped and the exhaust flow path shall be switched to the back-up filter. All carbon within the filter train that experienced breakthrough shall be replaced with new carbon prior to being placed back into service in accordance with 40 CFR 264.1086(e)(2)(ii) via §264.1087(c)(3)(i) via §264.1033(h)(1).

X.L. **MONITORING REQUIREMENTS**

X.L.1. The Permittee shall stop the feed of munitions to the demilitarization equipment identified in Attachment 14 (Demilitarization Equipment) when an ACAMS alarm occurs for two consecutive cycles in the HVAC filter stack. If the ACAMS alarm is confirmed, the Permittee shall stop furnace operations once all drained agent and partially disassembled munitions have been thermally treated, until a determination has been made as to the cause of the alarm and actions have been taken to prevent the re-occurrence of the alarm. The Executive Secretary shall be notified within 24 hours pursuant to Condition I.U. of a release from the HVAC filter stack.

X.L.2. A Depot Area Air Monitoring System (DAAMS) tube sampling the HVAC stack shall be pulled at least every twelve hours and analyzed. A corresponding Quality Plant (QP) sample shall be pulled at least daily and analyzed. The QP sample shall correspond to one of the twelve-hour samples.

X.L.3. The DAAMS tubes monitoring the most downstream midbed location shall be analyzed immediately if an HVAC stack ACAMS alarms is confirmed. The DAAMS tubes shall be pulled and analyzed in accordance with Attachment 3 (Sampling, Analytical, and QA/QC Procedures).

X.L.4. The HVAC filter unit vestibules shall be monitored in accordance with Attachment 22 (Agent Monitoring Plan) for the presence of chemical agent when the associated filter unit is placed in a standby condition. Feed to the demilitarization equipment described in Attachment 14 (Demilitarization Equipment) shall cease immediately upon a confirmed agent alarm from a HVAC vestibule.

X.L.5. When the HVAC stack ACAMS is off line for more than 10 minutes, the DAAMS tube sampling the HVAC stack shall be pulled and analyzed as soon as the ACAMS is back on line.

X.L.6. HVAC DAAMS tubes are located in the midbeds as specified in Attachment 22 (Agent Monitoring Plan), for GB, VX, and Mustard agent.

X.L.7. Igloo 1631 (Autoclave) and Igloo 1632 (DVS/DVSSR) carbon filtration system shall continuously monitor for agent breakthrough.

X.L.7.1 The Permittee shall continuously sample the exhaust air from the carbon filter train between the first and second carbon bed using DAAMS tubes. The DAAMS tubes will be analyzed for each potential agent that has exhausted into the carbon filtration system, and

X.L.7.2 The Permittee shall sample the exhaust air from the carbon filtration system exhaust stack using ACAMS with confirmation DAAMS. All instances of breakthrough beyond the first carbon filter midbed shall be reported to the Executive Secretary within 24 hours.

X.M. FILTERS EXPOSED TO MORE THAN ONE AGENT

X.M.1. Before carbon filters exposed to more than one type of chemical agent may be fed to the DFS, the Permittee shall: (1) ensure the monitors for all agents to which the carbon potentially is exposed are in place in the DFS furnace duct, common stack and processing areas; (2) submit a multi-agent monitoring plan to the Executive Secretary for approval; (3) submit a sampling and analytical plan to the Executive Secretary for approval in order to ensure that a determination can be made for further management of carbon in accordance with R315-3-4.3.