FORM EQP 5111 ATTACHMENT C11 - SUBPART BB
AIR EMISSIONS FROM EQUIPMENT LEAKS

This document is an attachment to Gage Product Company's (Gage) Michigan Department of Environment, Great Lakes, and Energy's (EGLE) Form EQP 5111 operating permit application. The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), R 299.9504, R 299.9508, R 299.9605, and R 299.9631; and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subpart BB, and 40 CFR §270.25 establish requirements for controlling organic air emissions from equipment leaks. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application attachment addresses air emission control requirements for equipment leaks at the Gage limited storage facility (Gage LSF) in Ferndale, Michigan.

(Check as Appropriate)

☒ Applicant for Operating License for Existing Facility

☐ Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility

☒ Equipment Subject 40 CFR Part 264, Subpart BB (R 299.9631)

☐ No Equipment Exists That Is Subject to 40 CFR Part 264, Subpart BB (R 299.9631)

☐ Applicant Elects to Document Compliance with the Relevant Provisions of the Regulations at 40 CFR Part 60, Part 61, or Part 63 Rather than 40 CFR Part 264, Subpart BB

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C11.B AIR EMISSIONS FROM EQUIPMENT LEAKS
[R 299.9631 and 40 CFR Part 264, Subpart BB]

Spent solvents with organic concentrations of at least ten percent by weight are managed at the Gage LSF in tanks and containers. Ancillary equipment associated with the management of these wastes and subject to the Subpart BB standards include pumps in light liquid service; valves in light liquid service, pressure relief devices in gas/vapor service; open-ended valves or lines; flanges and other connectors. Gage LSF has implemented a leak detection and repair program to monitor and control leaks from subject equipment. This program includes identifying each piece of equipment, periodic monitoring and visual inspection, leak repair (if warranted) and recordkeeping. Detailed information regarding Gage LSF's Subpart BB program applicable to the Gage LSF is provided as follows, utilizing specific elements from Attachment C11b.

The following types of equipment subject to BB are present at Gage LSF.

☒ Pumps in Light Liquid Service

☐ Compressors

☒ Pressure Relief Devices in Gas or Vapor Service

☐ Sampling Connection Systems

☒ Open-ended Valves or Lines

☒ Valves in Gas or Vapor or Light Liquid Service

☐ Pumps and Valves in Heavy Liquid Service

☒ Flanges and Other Connectors

C11.B.1 Waste Streams
[R 299.9631 and 40 CFR §264.1050(b)]

Waste Streams associated with each of the equipment identified above are associated with the LSF tank farm above ground storage tanks (ASTs) # 72, 73, 74, 75, and 76, along with their associated piping and pumps of the LSF unloading area.

Spent solvents to be reclaimed are managed in these tanks. A full description of these waste streams has been provided in Attachments A2 Chemical and Physical Analysis and A3 Waste Analysis Plan. This includes information from the facility's Waste Analysis Plan, sampling parameters, analytical results, organic compound concentration determination via process knowledge (this is the method Gage LSF uses via extensive evaluation and experience relating to customer's waste streams). Gage LSF has determined the equipment associated with hazardous waste tanks systems and containers are in contact with hazardous waste that contains more than 10 % by weight of total organic compounds and are in light liquid service. Therefore, Section C11.B.1(a), (b) and (c) are not applicable.

C11.B.1(d) Light or Heavy Liquid Designation
[R 299.9631 and 40 CFR §264.1063(h)]

Gage LSF has used generator knowledge and historic analytical result to determine the pumps and valves are, in fact, in light liquid service, based on vapor pressure values in standard referenced text, as required in 40 CFR 264.1063(h).

C11.B.2 Equipment Identification
[R 299.9631 and 40 CFR §§264.1050 and 270.25(a)]

For each unit managing waste containing organic compound concentrations of at least 10 percent by weight, Gage LSF has identified all associated equipment and developed and implemented applicable leak detection monitoring and inspections. Equipment identification information is found onsite in the facility's EHS documentation including:

- Leak Detection Monitoring Schedule (EHS form 044)
- Flanges and connectors are monitored using audible, visual and olfactory (AVO) measures and will be subject to Method 21 within 5 days if there is a leak.
- Fugitive VOC Emissions Leak Testing forms including:
    - LSF Header Valves;
    - LSF Mezzanine Valves
    - LSF Pumps
    - LSF Valves
    - LSF PRDs

These and other EHS forms available for review at the facility, list equipment identification numbers (Tag ID); locations within the facility; type of equipment (light liquid designation; and hazardous waste state at the equipment. Forms include instrument calibration, measured monitoring concentration, background concentration, time and date of monitoring.

The forms and procedures mentioned above cover in whole or in part the elements of Attachment C11b including C.11.B.3(a) Identification Numbers; C11.B.3(b) Monitoring Procedures; C11.B3(c) Comparison to Background; C11.B.3(d) Pump Standards; C11.B.3.(f) Valve Standards.

C11.B.4 Closed-Vent Systems and Control Equipment
[R 299.9631 and 40 CFR §264.1060]

The facility utilizes a vapor balance system for transferring bulk materials into the five Limited Storage Facility storage tanks, and for transferring materials into tank trucks for off-site disposal. There are no regulated process vents associated with the permitted RCRA storage areas in the LSF. However, per 40 CFR 264.1030(b) the process vent associated with the thin-film evaporator (TFE) recycling equipment is subject to Subpart AA but the TFE equipment itself is not subject to RCRA permitting. Therefore, Subpart AA is not applicable to the LSF, nor the Attachment C11a for Subpart AA. The vapor balance system is mentioned here as related to controls in place at the LSF for preventing fugitive emissions. The vapor balance system is not a “closed vented system used to transport gas or vapors from the equipment (tank) to a control device”. The equipment listed in Sections C11.B4(a) through (h) are not utilized at the facility. Therefore, Sections C11.B4(a) through (h) are not applicable.

C11.B.5 Pumps in Light Liquid Service
[R 299.9631 and 40 CFR §270.25(d)]

Gage LSF has a monthly (and each workday) monitoring procedure and program for each of the pumps (equipment numbers P91-94, and diaphragm (drum) pump P95) at the LSF. These monitoring programs include visual inspections (AVO) by LSF operators at each shift and recorded separately for each pump. Operators fill out inspection results which are posted in the LSF by the pumps. Designations include whether the pump conditions are normal or if maintenance is requested. In addition, EHS personnel monitor the pumps monthly utilizing EPA Method 21. The facility records the results, including instrument, operator, date, background and measured concentrations, time and date and Tag ID. When a monitoring instrument reading of 10,000 ppm or greater is measured, the pump is considered to be leaking, an attempt at repair is performed within five calendar days and is repaired within 15 calendar days. Dates of leak detection, repair attempts and repair are recorded. Leaking pumps are marked with a weatherproof tag marked with the equipment identification number and the date that the leak was detected.

C11.B.6 Compressors
[R 299.9631 and 40 CFR §270.25(d)]

The facility does not utilize compressors to manage hazardous wastes. Therefore, this section is not applicable.

C11.B.7 Pressure Relief Devices in Gas or Vapor Service
[R 299.9631 and 40 CFR §270.25(d)]

Each pressure relief device in gas or vapor service is operated with no detectable emissions, except during pressure releases. Monitoring procedures track that any detectable emissions remain below 500 ppm above background. EHS personnel monitor the devices utilizing EPA Method 21. The facility records the results, including background and measured concentrations, time and date and Tag ID. When a monitoring instrument reading of 500 ppm or greater is measured, the relief device is considered to be leaking and is repaired within five calendar days. Dates of leak detection and repair are recorded. Leaking pressure relief valves are marked with a weatherproof tag marked with the equipment identification number and the date that the leak was detected.

Subsequent follow-up monitoring will confirm that each pressure relief device will be returned to a condition of no detectable emissions after each pressure release.

C11.B.8 Sampling Connection Systems
[R 299.9631 and 40 CFR §270.25(d)]

The facility does not utilize sampling connection systems associated with hazardous wastes equipment subject to Subpart BB. Therefore, this section is not applicable.

C11.B.9 Open-ended Valves or Lines
[R 299.9631 and 40 CFR §270.25(d)]

Open-ended valves or lines are equipped with a cap, blind valve, plug, or second valve as outlined in EHS requirements.

C11.B.10 Valves in Light Liquid Service
[R 299.9631 and 40 CFR §270.25(d)]

EHS personnel monitor the LSF valves annually utilizing EPA Method 21. Gage LSF utilizes the schedule in 40 CFR 264 Subpart BB. The facility records the results, including background and measured concentrations; time and date and Tag ID, and type of equipment (light liquid designation). When a monitoring instrument reading of 10,000 ppm or greater is measured, the valve is considered to be leaking. Leaking valves are marked with a weatherproof tag marked with the equipment identification number and the date that the leak was detected. A first attempt at repair is made within five days, and the leak is repaired within 15 calendar days. Dates of leak detection and repair are recorded.

C11.B.11 Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, Flanges, and Other Connectors
[R 299.9631 and 40 CFR §270.25(d)]

The equipment related to this category include “Flanges and Other Connectors” at the LSF. Flanges and other connectors found by means of audible, visual, or olfactory methods (AVO) are repaired and tested via Method 21 monitoring, within 5 days of discovery.

All related records and documentation are kept at the facility.

C11.B.12 Certification Statements
[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

The facility does not utilize a closed-vented system to transport gas or vapors from the equipment subject to Subpart BB to a control device. The equipment listed in Sections C11.B4(a) through (h) are not utilized at the facility. Therefore, the certification statements required by 40 CFR 270.25(e)(4) and (5) are not applicable.

C11.B.13 Documentation of Compliance with the Relevant Provisions of the Regulations at 40 CFR Part 60, Part 61, or Part 63 Rather than 40 CFR Part 264, Subpart BB [R 299.9631 and 40 CFR §§264.1064(m) and 40 CFR 270.25(d)]

The facility is not claiming any of its equipment is subject to 40 CFR Part 60, Part 61, or Part 63 rather than 40 CFR Part 264, Subpart BB. Therefore, this section is not applicable.