FORM EQP 5111 ATTACHMENT TEMPLATE C11 - SUBPART AA
AIR EMISSIONS FROM PROCESS VENTS

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 299.9630; and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subpart AA, and 40 CFR §270.24 establish requirements for controlling organic air emissions from process vents. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template includes the information required by 40 CFR §270.24 to address air emission control requirements for process vents at hazardous waste management facilities for the Dow Silicones Corporation facility in Midland, Michigan.

(Check as Appropriate)

☒ Applicant for Operating License for Existing Facility

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

☐ Process Vents Subject to 40 CFR Part 264, Subpart AA (R 299.9630)

☒ No Process Vents Exist That Are Subject to 40 CFR Part 264, Subpart AA (R 299.9630)

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

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 template addresses air emission control requirements for equipment leaks at the hazardous waste management facility for the Dow Silicones Corporation facility in Midland, 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]

☒ 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)]

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Dow Silicones Corporation computes total organic compound concentration from process knowledge as part of the waste characterization, as explained in Module A3 (Waste Analysis Plan).

C11.B.1(a)(1) Sampling Parameters
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Waste stream sampling procedures comply with 40 CFR §264.1034(d)(1)(i) and (ii) and are described in detail in Module A3 (Waste Analysis Plan).

C11.B.1(a)(2) Analytical Results
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Total organic compound concentrations are not computed using U.S. EPA test methods directly by Dow Silicones. Dow Silicones computes total organic compound concentration from process knowledge. Once Dow Silicones generates hazardous wastes, these wastes are directly containerized and eventually shipped off site for further processing or disposal. Dow Silicones does not treat waste at the Midland facility.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9631 and 40 CFR §264.1063(d)(3)]

The individual waste generator is responsible for determining the concentration of organic compounds and providing this documentation to the facility as part of the waste characterization process. Since the facility receives waste from any waste generated from the manufacturing facilities it is assumed to be subject to BB.

C11.B.1(c) Date and Frequency of Determination
[R 299.9631 and 40 CFR §264.1063(d)]

Dates and frequencies of total organic compound concentration determinations are not prescribed but are instead handled on a case by case basis as part of the generator waste characterization process as described in Module A3 (Waste Analysis Plan).

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

All pumps and valves at this facility that operate in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations. The determination that pumps and valves in the 806 tank farm and the adjacent trailer loading stations are in light liquid service was made using information in Dow Silicones' database of material composition and vapor pressures of constituents from standard reference texts.

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

All hazardous waste tanks and ancillary equipment at this facility are in contact with hazardous wastes containing organic compounds at concentrations greater than 10 percent

by weight for more than 300 hours per year and are not in vacuum service. All pumps, pressure relief devices, connectors, sampling connection systems, open-ended valves and lines, and valves in hazardous waste service are therefore subject to the requirements of 40 CFR 264 Subpart BB expect for those valves, connectors, and relief devices which are part of a tank cover and are therefore subject to Subpart CC requirements instead. Each piece of equipment to which these requirements apply is identified using a combination of color-coded drawings and/or identification tags so it can be readily distinguished from other equipment.

The table below shows the types and approximate number of components in BB service.

Component Type	Approximate Number
Agitators	0
Flanges and Other Connectors	205
Pumps	7
Pressure-Relief Devices	12
Valves	265

C11.B.3 Equipment with No Detectable Emissions
[R 299.9631 and 40 CFR §264.1064(g)(2)]

The facility does not, currently, operate any equipment that is subject to the requirements of 40 CFR 264.1064(g)(2).

Equipment, that would be subject to the requirements of 40 CFR 264.1064(g)(2), would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(a) Identification Numbers

[R 299.9631 and 40 CFR §264.1064(g)(1)]

See Appendix C11-2 for the subpart BB equipment list.

C11.B.3(b) Monitoring Procedures

[R 299.9631 and 40 CFR §264.1063]

Dow Silicones utilizes a third-party fugitive emissions contractor to conduct all fugitive emissions monitoring per the requirements of 40 CFR 264.1063 and Method 21.

The site fugitive emissions contractor is required to supply VOC monitoring equipment that meets the requirements described in Section 6.0 of EPA method 21.

The site fugitive emission contractor is required to calibrate and maintain the VOC monitoring equipment per the requirements of EPA Method 21 which includes daily calibration requirements and compliance with the requirements of Section 8 of EPA Method 21. Any VOC monitoring equipment that does not meet these requirements must be removed from service, tagged, and repaired per manufacturer's requirements before being returned to service.

The site fugitive emissions contractor trains and certifies their monitoring technicians per the requirements of Method 21. This includes equipment specific training on monitoring requirements and techniques for Valves, Flanges/Connectors, Pumps/Compressors, Pressure Relief Devices, Sample Connection Systems, etc. This training includes the operation of the VOC monitoring equipment, proper monitoring techniques for various equipment types, and identification of leaks.

The site fugitive emissions contractor maintains a QA/QC program to ensure continued compliance with the requirements described above and in EPA Method 21.

When monitoring a regulated unit, the instrument probe is traversed around all possible leak interfaces of that unit, as close to each leak interface as possible. Leak interfaces include pump seals, housing seals on sealed and magnetic drive pumps, emergency relief valve flanges and vent outlets, and valve stems and flanges.

C11.B.3(c) Comparison to Background

[R 299.9631 and 40 CFR §264.1063(c)(2)]

Background concentrations of chemical compounds are determined before Method 21 monitoring begins in any area. The background reading is updated anytime there is a significant change (+/- 10 ppm) in the background reading. The background reading is used to adjust the maximum ppm reading in order to create a net ppm reading in the fugitive emissions database. If an unusually high background reading is noted (100 ppm or higher) then all monitoring will stop until the high background reading has been addressed.

C11.B.3(d) Pump Standards

[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

Pumps, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Pumps are monitored, following Method 21, based on the requirements described in 40 CFR 64.1052 for Single Mechanical Seal, Dual Mechanical Seal, and pumps designated as “no detectable emissions” per 40 CFR 264.1052(e). In addition, Single Mechanical Seal and Dual Mechanical Seal pumps are visually inspected each calendar week for signs of liquids dripping from the seal. The operation of all pumps, associated with 806 tank farm, are documented in various material transfer procedures to ensure safe and consistent operation.

C11.B.3(e) Compressor Standards

[R 299.9631 and 40 CFR §264.1053]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(f) Valve Standards

[R 299.9631 and 40 CFR §264.1057 and 264.1058]

Valves, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Valves are monitored, following Method 21, based on the requirements described in 40 CFR 64.1057. The facility utilizes alternative standards for skip periods for valves in Light Liquid and Gas/Vapor service as described in 40 CFR 264.1062. Compliance with the requirements of 40 CFR 264.1062 is maintained using the site fugitive emissions database. The operation of valves, associated with 806 tank farm, are documented in various procedures to ensure safe and consistent operation.

C11.B.4 Closed-Vent Systems and Control Equipment

[R 299.9631 and 40 CFR §264.1060]

The facility does not, currently, operate any Closed-Vent Systems or other Control Equipment that are subject to the requirements of 40 CFR 264.1060, thus the following sections of C11.B.4 are not applicable. The hazardous waste tanks in 806 tank farm are operated as pressure vessels with a nitrogen blanket, see C.11.C for more details.

C11.B.4(a) Condenser
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(a)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b) Thermal Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(b)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B(4)(b)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c) Catalytic Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(c)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d) Boiler or Process Heater
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(d)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e) Flare
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(e)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f) Carbon Absorber
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(f)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(g) Implementation Schedule
[R 299.9630 and 40 CFR §270.25(b)]

C11.B.4(h) Other Control Devices
[R 299.9631 and 40 CFR §§264.1060(a) and 270.25(c)]

C11.B.4(h)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(h)(2) Performance Test Plan
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed Vent System
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(ii) Planned Timing
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3) Performance Test Results
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(i) Description of Actual Test Runs
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(ii) Velocity and Volumetric Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iii) Organic Compound Content
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iv) Total Organic Compound Mass Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(v) Total Organic Compound Emissions
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.5 Pumps in Light Liquid Service

[R 299.9631 and 40 CFR §270.25(d)]

All pumps at this facility in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations; all pumps are in light liquid service. Types of pumps in use could include those with single mechanical seals, those with dual mechanical seals employing a barrier fluid, and pumps designated as “no detectable emissions” per the

requirements of 40 CFR 264-10529(e). All pumps subject to the RCRA Subpart BB requirements are managed according to the requirements appropriate to each type as described below. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

C11.B.5(a) Single Mechanical Seal Pumps [40 CFR 264.1052(a)-(c)]

Each pump is visually inspected weekly for indications of liquids dripping from the pump seal. Each pump is monitored monthly using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background, indicating a leak. When a leak is detected an initial attempt at repair is made within five days, with a final repair or replacement within 15 calendar days after detection.

C11.B.5(b) Double Mechanical Seal Pumps with Barrier Fluid [40 CFR 264.1052(a)-(d)]

Dual Mechanical Seal pumps are identified and managed per the requirements defined in 40 CFR 264.1052 (a-d). Any pump, fitted with a Dual Mechanical Seal that does not meet the aforementioned requirements are managed as Single Mechanical Seal pumps and managed per section C11.B.5(a).

Each pump is visually inspected each calendar week for indications of liquids dripping from the pump seal. If the visual inspection of the pump shows liquid dripping from the pump seal, or if the daily inspection of the barrier fluid level shows a sudden loss of fluid, or if the barrier fluid pressure or level alarm indicator is activated, a leak is detected. When a leak is detected an initial attempt at repair is made within five days, with final repair or replacement within 15 calendar days after detection.

C11.B.5(c) Pumps Designated as No Detectable Emissions [40 CFR 264.1052(e), 264.1064(g)(2)]

The site does not operate or maintain any pumps designated as “no detectable emissions” per the regulation.

C11.B.6 Compressors

[R 299.9631 and 40 CFR §270.25(d)]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053 or 40 CFR 264.1060.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

Compressors, that would be subject to the requirements of 40 CFR 264.1060, would be identified through the facilities management of change process using the criteria defined in the regulation.

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

The hazardous waste storage tank emergency relief vents are in gas vapor service because they are in contact with the vapor spaces of the hazardous waste storage tanks. If a potential leak is detected by audio, visual, or olfactory identification, the leak is verified by Method 21. An instrument reading of 500 ppm or greater above background will be taken as indicating a leak and a first attempt at repair will be made within five days, with final repair or replacement within 15 days. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, within 5 days of each pressure release as determined by Method 21 monitoring.

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

Each Sampling Connection System shall be operated per the requirements of 40 CFR264.1055. Per the regulation, the purged process fluid must meet one of the following requirements;

1. Returned the purged process fluid directly to the process line.
2. Collect and recycle the purged process fluid, or
3. Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 164.1084 – 164.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

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

Each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve is only removed/opened during operations requiring flow of hazardous wastes through the open-ended line. The cap, blind flange, or plug shall be replaced as soon as the operation is complete. Where an open-ended valve is equipped with a second valve, the valve on the hazardous waste end of the line is closed before closing the second valve.

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

All valves in hazardous waste service at this facility are in gas/vapor or light liquid service. Each valve is monitored for leaks using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background taken as indicating the presence of a leak.

Each valve is monitored by Method 21 per the requirements of 40 CFR 264.1057. In addition, the facility utilizes the alternate standards for valves in gas/vapor or light liquid service and employees skip periods based on the requirements described in 40 CFR 264.1062. The management and scheduling of Method 21 monitoring, based on these requirements, is controlled through the site fugitive emissions database.
The facility currently does not have any valves that are designated for “no detectable emissions” as described in 40 CFR 64.1057(f), Unsafe-to-Monitor as described in section 40

CFR 64.1057(g), or Difficult-to-Monitor as described in section 40 CFR 64.1057(h).

Valves, that would be subject to the requirements of 40 CFR 264.1057(f-h), would be identified through the facilities management of change process using the criteria defined in the regulation.

Whenever a leak is detected this is noted in the facility inspection log and an initial attempt at repair is made within five days and the valve is monitored again within five days of the repair attempt. If the initial attempt at repair is not successful, a final repair or replacement is made within 15 calendar days of the initial leak detection and the repaired or replaced valve is monitored within five days following the final repair or replacement. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

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)]

There are no pumps or valves in heavy liquid service at this facility.

Pressure relief devices in light liquid service at this facility are monitored within five days using U.S. EPA Method 21 if any visual, audible, olfactory, or other indication of a leak is observed. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

Flanges and other connectors are visually inspected daily as part of the facility inspection schedule (see Section 2.F, “Inspection Schedule”). If a leak is detected in any flange or other connector, the unit is monitored within five days using U.S. EPA Method 21. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

C11.B.12 Certification Statements

[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

See cover letter and EQP 5111/EQP 5150 forms that were certified by Dow Silicones Corporation authorized signer.

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)]

Dow Silicones is choosing to comply with BB requirements.

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

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(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]

☒ 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)]

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Dow Silicones Corporation computes total organic compound concentration from process knowledge as part of the waste characterization, as explained in Module A3 (Waste Analysis Plan).

C11.B.1(a)(1) Sampling Parameters
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Waste stream sampling procedures comply with 40 CFR §264.1034(d)(1)(i) and (ii) and are described in detail in Module A3 (Waste Analysis Plan).

C11.B.1(a)(2) Analytical Results
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Total organic compound concentrations are not computed using U.S. EPA test methods directly by Dow Silicones. Dow Silicones computes total organic compound concentration from process knowledge. Once Dow Silicones generates hazardous wastes, these wastes are directly containerized and eventually shipped off site for further processing or disposal. Dow Silicones does not treat waste at the Midland facility.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9631 and 40 CFR §264.1063(d)(3)]

The individual waste generator is responsible for determining the concentration of organic compounds and providing this documentation to the facility as part of the waste characterization process. Since the facility receives waste from any waste generated from the manufacturing facilities it is assumed to be subject to BB.

C11.B.1(c) Date and Frequency of Determination
[R 299.9631 and 40 CFR §264.1063(d)]

Dates and frequencies of total organic compound concentration determinations are not prescribed but are instead handled on a case by case basis as part of the generator waste characterization process as described in Module A3 (Waste Analysis Plan).

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

All pumps and valves at this facility that operate in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations. The determination that pumps and valves in the 806 tank farm and the adjacent trailer loading stations are in light liquid service was made using information in Dow Silicones' database of material composition and vapor pressures of constituents from standard reference texts.

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

All hazardous waste tanks and ancillary equipment at this facility are in contact with hazardous wastes containing organic compounds at concentrations greater than 10 percent

by weight for more than 300 hours per year and are not in vacuum service. All pumps, pressure relief devices, connectors, sampling connection systems, open-ended valves and lines, and valves in hazardous waste service are therefore subject to the requirements of 40 CFR 264 Subpart BB expect for those valves, connectors, and relief devices which are part of a tank cover and are therefore subject to Subpart CC requirements instead. Each piece of equipment to which these requirements apply is identified using a combination of color-coded drawings and/or identification tags so it can be readily distinguished from other equipment.

The table below shows the types and approximate number of components in BB service.

Component Type	Approximate Number
Agitators	0
Flanges and Other Connectors	205
Pumps	7
Pressure-Relief Devices	12
Valves	265

C11.B.3 Equipment with No Detectable Emissions
[R 299.9631 and 40 CFR §264.1064(g)(2)]

The facility does not, currently, operate any equipment that is subject to the requirements of 40 CFR 264.1064(g)(2).

Equipment, that would be subject to the requirements of 40 CFR 264.1064(g)(2), would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(a) Identification Numbers

[R 299.9631 and 40 CFR §264.1064(g)(1)]

See Appendix C11-2 for the subpart BB equipment list.

C11.B.3(b) Monitoring Procedures

[R 299.9631 and 40 CFR §264.1063]

Dow Silicones utilizes a third-party fugitive emissions contractor to conduct all fugitive emissions monitoring per the requirements of 40 CFR 264.1063 and Method 21.

The site fugitive emissions contractor is required to supply VOC monitoring equipment that meets the requirements described in Section 6.0 of EPA method 21.

The site fugitive emission contractor is required to calibrate and maintain the VOC monitoring equipment per the requirements of EPA Method 21 which includes daily calibration requirements and compliance with the requirements of Section 8 of EPA Method 21. Any VOC monitoring equipment that does not meet these requirements must be removed from service, tagged, and repaired per manufacturer's requirements before being returned to service.

The site fugitive emissions contractor trains and certifies their monitoring technicians per the requirements of Method 21. This includes equipment specific training on monitoring requirements and techniques for Valves, Flanges/Connectors, Pumps/Compressors, Pressure Relief Devices, Sample Connection Systems, etc. This training includes the operation of the VOC monitoring equipment, proper monitoring techniques for various equipment types, and identification of leaks.

The site fugitive emissions contractor maintains a QA/QC program to ensure continued compliance with the requirements described above and in EPA Method 21.

When monitoring a regulated unit, the instrument probe is traversed around all possible leak interfaces of that unit, as close to each leak interface as possible. Leak interfaces include pump seals, housing seals on sealed and magnetic drive pumps, emergency relief valve flanges and vent outlets, and valve stems and flanges.

C11.B.3(c) Comparison to Background

[R 299.9631 and 40 CFR §264.1063(c)(2)]

Background concentrations of chemical compounds are determined before Method 21 monitoring begins in any area. The background reading is updated anytime there is a significant change (+/- 10 ppm) in the background reading. The background reading is used to adjust the maximum ppm reading in order to create a net ppm reading in the fugitive emissions database. If an unusually high background reading is noted (100 ppm or higher) then all monitoring will stop until the high background reading has been addressed.

C11.B.3(d) Pump Standards

[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

Pumps, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Pumps are monitored, following Method 21, based on the requirements described in 40 CFR 64.1052 for Single Mechanical Seal, Dual Mechanical Seal, and pumps designated as “no detectable emissions” per 40 CFR 264.1052(e). In addition, Single Mechanical Seal and Dual Mechanical Seal pumps are visually inspected each calendar week for signs of liquids dripping from the seal. The operation of all pumps, associated with 806 tank farm, are documented in various material transfer procedures to ensure safe and consistent operation.

C11.B.3(e) Compressor Standards

[R 299.9631 and 40 CFR §264.1053]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(f) Valve Standards

[R 299.9631 and 40 CFR §264.1057 and 264.1058]

Valves, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Valves are monitored, following Method 21, based on the requirements described in 40 CFR 64.1057. The facility utilizes alternative standards for skip periods for valves in Light Liquid and Gas/Vapor service as described in 40 CFR 264.1062. Compliance with the requirements of 40 CFR 264.1062 is maintained using the site fugitive emissions database. The operation of valves, associated with 806 tank farm, are documented in various procedures to ensure safe and consistent operation.

C11.B.4 Closed-Vent Systems and Control Equipment

[R 299.9631 and 40 CFR §264.1060]

The facility does not, currently, operate any Closed-Vent Systems or other Control Equipment that are subject to the requirements of 40 CFR 264.1060, thus the following sections of C11.B.4 are not applicable. The hazardous waste tanks in 806 tank farm are operated as pressure vessels with a nitrogen blanket, see C.11.C for more details.

C11.B.4(a) Condenser
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(a)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b) Thermal Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(b)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B(4)(b)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c) Catalytic Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(c)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d) Boiler or Process Heater
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(d)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e) Flare
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(e)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f) Carbon Absorber
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(f)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(g) Implementation Schedule
[R 299.9630 and 40 CFR §270.25(b)]

C11.B.4(h) Other Control Devices
[R 299.9631 and 40 CFR §§264.1060(a) and 270.25(c)]

C11.B.4(h)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(h)(2) Performance Test Plan
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed Vent System
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(ii) Planned Timing
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3) Performance Test Results
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(i) Description of Actual Test Runs
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(ii) Velocity and Volumetric Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iii) Organic Compound Content
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iv) Total Organic Compound Mass Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(v) Total Organic Compound Emissions
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.5 Pumps in Light Liquid Service

[R 299.9631 and 40 CFR §270.25(d)]

All pumps at this facility in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations; all pumps are in light liquid service. Types of pumps in use could include those with single mechanical seals, those with dual mechanical seals employing a barrier fluid, and pumps designated as “no detectable emissions” per the

requirements of 40 CFR 264-10529(e). All pumps subject to the RCRA Subpart BB requirements are managed according to the requirements appropriate to each type as described below. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

C11.B.5(a) Single Mechanical Seal Pumps [40 CFR 264.1052(a)-(c)]

Each pump is visually inspected weekly for indications of liquids dripping from the pump seal. Each pump is monitored monthly using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background, indicating a leak. When a leak is detected an initial attempt at repair is made within five days, with a final repair or replacement within 15 calendar days after detection.

C11.B.5(b) Double Mechanical Seal Pumps with Barrier Fluid [40 CFR 264.1052(a)-(d)]

Dual Mechanical Seal pumps are identified and managed per the requirements defined in 40 CFR 264.1052 (a-d). Any pump, fitted with a Dual Mechanical Seal that does not meet the aforementioned requirements are managed as Single Mechanical Seal pumps and managed per section C11.B.5(a).

Each pump is visually inspected each calendar week for indications of liquids dripping from the pump seal. If the visual inspection of the pump shows liquid dripping from the pump seal, or if the daily inspection of the barrier fluid level shows a sudden loss of fluid, or if the barrier fluid pressure or level alarm indicator is activated, a leak is detected. When a leak is detected an initial attempt at repair is made within five days, with final repair or replacement within 15 calendar days after detection.

C11.B.5(c) Pumps Designated as No Detectable Emissions [40 CFR 264.1052(e), 264.1064(g)(2)]

The site does not operate or maintain any pumps designated as “no detectable emissions” per the regulation.

C11.B.6 Compressors

[R 299.9631 and 40 CFR §270.25(d)]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053 or 40 CFR 264.1060.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

Compressors, that would be subject to the requirements of 40 CFR 264.1060, would be identified through the facilities management of change process using the criteria defined in the regulation.

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

The hazardous waste storage tank emergency relief vents are in gas vapor service because they are in contact with the vapor spaces of the hazardous waste storage tanks. If a potential leak is detected by audio, visual, or olfactory identification, the leak is verified by Method 21. An instrument reading of 500 ppm or greater above background will be taken as indicating a leak and a first attempt at repair will be made within five days, with final repair or replacement within 15 days. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, within 5 days of each pressure release as determined by Method 21 monitoring.

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

Each Sampling Connection System shall be operated per the requirements of 40 CFR264.1055. Per the regulation, the purged process fluid must meet one of the following requirements;

1. Returned the purged process fluid directly to the process line.
2. Collect and recycle the purged process fluid, or
3. Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 164.1084 – 164.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

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

Each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve is only removed/opened during operations requiring flow of hazardous wastes through the open-ended line. The cap, blind flange, or plug shall be replaced as soon as the operation is complete. Where an open-ended valve is equipped with a second valve, the valve on the hazardous waste end of the line is closed before closing the second valve.

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

All valves in hazardous waste service at this facility are in gas/vapor or light liquid service. Each valve is monitored for leaks using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background taken as indicating the presence of a leak.

Each valve is monitored by Method 21 per the requirements of 40 CFR 264.1057. In addition, the facility utilizes the alternate standards for valves in gas/vapor or light liquid service and employees skip periods based on the requirements described in 40 CFR 264.1062. The management and scheduling of Method 21 monitoring, based on these requirements, is controlled through the site fugitive emissions database.
The facility currently does not have any valves that are designated for “no detectable emissions” as described in 40 CFR 64.1057(f), Unsafe-to-Monitor as described in section 40

CFR 64.1057(g), or Difficult-to-Monitor as described in section 40 CFR 64.1057(h).

Valves, that would be subject to the requirements of 40 CFR 264.1057(f-h), would be identified through the facilities management of change process using the criteria defined in the regulation.

Whenever a leak is detected this is noted in the facility inspection log and an initial attempt at repair is made within five days and the valve is monitored again within five days of the repair attempt. If the initial attempt at repair is not successful, a final repair or replacement is made within 15 calendar days of the initial leak detection and the repaired or replaced valve is monitored within five days following the final repair or replacement. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

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)]

There are no pumps or valves in heavy liquid service at this facility.

Pressure relief devices in light liquid service at this facility are monitored within five days using U.S. EPA Method 21 if any visual, audible, olfactory, or other indication of a leak is observed. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

Flanges and other connectors are visually inspected daily as part of the facility inspection schedule (see Section 2.F, “Inspection Schedule”). If a leak is detected in any flange or other connector, the unit is monitored within five days using U.S. EPA Method 21. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

C11.B.12 Certification Statements

[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

See cover letter and EQP 5111/EQP 5150 forms that were certified by Dow Silicones Corporation authorized signer.

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)]

Dow Silicones is choosing to comply with BB requirements.

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

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 template addresses air emission control requirements for equipment leaks at the hazardous waste management facility for the Dow Silicones Corporation facility in Midland, Michigan.

(Check as Appropriate)

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- C11.B.4(d) Boiler or Process Heater
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  - C11.B.4(e)(1) Identification Numbers
  - C11.B.4(e)(2) Applicable Standards
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  - C11.B.4(f)(1) Identification Numbers
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  - C11.B.4(h)(2) Performance Test Plan
    - C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed-Vent System
    - C11.B.4(h)(2)(ii) Planned Timing
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  - C11.B.4(h)(3) Performance Test Results
    - C11.B.4(h)(3)(i) Description of Actual Test Runs

C11.B.4(h)(3)(ii)	Velocity and Volumetric Flow Rate
C11.B.4(h)(3)(iii)	Organic Compound Content
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C11.B AIR EMISSIONS FROM EQUIPMENT LEAKS

[R 299.9631 and 40 CFR Part 264, Subpart BB]

☒ 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)]

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Dow Silicones Corporation computes total organic compound concentration from process knowledge as part of the waste characterization, as explained in Module A3 (Waste Analysis Plan).

C11.B.1(a)(1) Sampling Parameters
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Waste stream sampling procedures comply with 40 CFR §264.1034(d)(1)(i) and (ii) and are described in detail in Module A3 (Waste Analysis Plan).

C11.B.1(a)(2) Analytical Results
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Total organic compound concentrations are not computed using U.S. EPA test methods directly by Dow Silicones. Dow Silicones computes total organic compound concentration from process knowledge. Once Dow Silicones generates hazardous wastes, these wastes are directly containerized and eventually shipped off site for further processing or disposal. Dow Silicones does not treat waste at the Midland facility.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9631 and 40 CFR §264.1063(d)(3)]

The individual waste generator is responsible for determining the concentration of organic compounds and providing this documentation to the facility as part of the waste characterization process. Since the facility receives waste from any waste generated from the manufacturing facilities it is assumed to be subject to BB.

C11.B.1(c) Date and Frequency of Determination
[R 299.9631 and 40 CFR §264.1063(d)]

Dates and frequencies of total organic compound concentration determinations are not prescribed but are instead handled on a case by case basis as part of the generator waste characterization process as described in Module A3 (Waste Analysis Plan).

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

All pumps and valves at this facility that operate in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations. The determination that pumps and valves in the 806 tank farm and the adjacent trailer loading stations are in light liquid service was made using information in Dow Silicones' database of material composition and vapor pressures of constituents from standard reference texts.

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

All hazardous waste tanks and ancillary equipment at this facility are in contact with hazardous wastes containing organic compounds at concentrations greater than 10 percent

by weight for more than 300 hours per year and are not in vacuum service. All pumps, pressure relief devices, connectors, sampling connection systems, open-ended valves and lines, and valves in hazardous waste service are therefore subject to the requirements of 40 CFR 264 Subpart BB expect for those valves, connectors, and relief devices which are part of a tank cover and are therefore subject to Subpart CC requirements instead. Each piece of equipment to which these requirements apply is identified using a combination of color-coded drawings and/or identification tags so it can be readily distinguished from other equipment.

The table below shows the types and approximate number of components in BB service.

Component Type	Approximate Number
Agitators	0
Flanges and Other Connectors	205
Pumps	7
Pressure-Relief Devices	12
Valves	265

C11.B.3 Equipment with No Detectable Emissions
[R 299.9631 and 40 CFR §264.1064(g)(2)]

The facility does not, currently, operate any equipment that is subject to the requirements of 40 CFR 264.1064(g)(2).

Equipment, that would be subject to the requirements of 40 CFR 264.1064(g)(2), would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(a) Identification Numbers

[R 299.9631 and 40 CFR §264.1064(g)(1)]

See Appendix C11-2 for the subpart BB equipment list.

C11.B.3(b) Monitoring Procedures

[R 299.9631 and 40 CFR §264.1063]

Dow Silicones utilizes a third-party fugitive emissions contractor to conduct all fugitive emissions monitoring per the requirements of 40 CFR 264.1063 and Method 21.

The site fugitive emissions contractor is required to supply VOC monitoring equipment that meets the requirements described in Section 6.0 of EPA method 21.

The site fugitive emission contractor is required to calibrate and maintain the VOC monitoring equipment per the requirements of EPA Method 21 which includes daily calibration requirements and compliance with the requirements of Section 8 of EPA Method 21. Any VOC monitoring equipment that does not meet these requirements must be removed from service, tagged, and repaired per manufacturer's requirements before being returned to service.

The site fugitive emissions contractor trains and certifies their monitoring technicians per the requirements of Method 21. This includes equipment specific training on monitoring requirements and techniques for Valves, Flanges/Connectors, Pumps/Compressors, Pressure Relief Devices, Sample Connection Systems, etc. This training includes the operation of the VOC monitoring equipment, proper monitoring techniques for various equipment types, and identification of leaks.

The site fugitive emissions contractor maintains a QA/QC program to ensure continued compliance with the requirements described above and in EPA Method 21.

When monitoring a regulated unit, the instrument probe is traversed around all possible leak interfaces of that unit, as close to each leak interface as possible. Leak interfaces include pump seals, housing seals on sealed and magnetic drive pumps, emergency relief valve flanges and vent outlets, and valve stems and flanges.

C11.B.3(c) Comparison to Background

[R 299.9631 and 40 CFR §264.1063(c)(2)]

Background concentrations of chemical compounds are determined before Method 21 monitoring begins in any area. The background reading is updated anytime there is a significant change (+/- 10 ppm) in the background reading. The background reading is used to adjust the maximum ppm reading in order to create a net ppm reading in the fugitive emissions database. If an unusually high background reading is noted (100 ppm or higher) then all monitoring will stop until the high background reading has been addressed.

C11.B.3(d) Pump Standards

[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

Pumps, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Pumps are monitored, following Method 21, based on the requirements described in 40 CFR 64.1052 for Single Mechanical Seal, Dual Mechanical Seal, and pumps designated as “no detectable emissions” per 40 CFR 264.1052(e). In addition, Single Mechanical Seal and Dual Mechanical Seal pumps are visually inspected each calendar week for signs of liquids dripping from the seal. The operation of all pumps, associated with 806 tank farm, are documented in various material transfer procedures to ensure safe and consistent operation.

C11.B.3(e) Compressor Standards

[R 299.9631 and 40 CFR §264.1053]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(f) Valve Standards

[R 299.9631 and 40 CFR §264.1057 and 264.1058]

Valves, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Valves are monitored, following Method 21, based on the requirements described in 40 CFR 64.1057. The facility utilizes alternative standards for skip periods for valves in Light Liquid and Gas/Vapor service as described in 40 CFR 264.1062. Compliance with the requirements of 40 CFR 264.1062 is maintained using the site fugitive emissions database. The operation of valves, associated with 806 tank farm, are documented in various procedures to ensure safe and consistent operation.

C11.B.4 Closed-Vent Systems and Control Equipment

[R 299.9631 and 40 CFR §264.1060]

The facility does not, currently, operate any Closed-Vent Systems or other Control Equipment that are subject to the requirements of 40 CFR 264.1060, thus the following sections of C11.B.4 are not applicable. The hazardous waste tanks in 806 tank farm are operated as pressure vessels with a nitrogen blanket, see C.11.C for more details.

C11.B.4(a) Condenser
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(a)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b) Thermal Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(b)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B(4)(b)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c) Catalytic Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(c)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d) Boiler or Process Heater
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(d)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e) Flare
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(e)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f) Carbon Absorber
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(f)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(g) Implementation Schedule
[R 299.9630 and 40 CFR §270.25(b)]

C11.B.4(h) Other Control Devices
[R 299.9631 and 40 CFR §§264.1060(a) and 270.25(c)]

C11.B.4(h)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(h)(2) Performance Test Plan
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed Vent System
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(ii) Planned Timing
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3) Performance Test Results
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(i) Description of Actual Test Runs
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(ii) Velocity and Volumetric Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iii) Organic Compound Content
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iv) Total Organic Compound Mass Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(v) Total Organic Compound Emissions
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.5 Pumps in Light Liquid Service

[R 299.9631 and 40 CFR §270.25(d)]

All pumps at this facility in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations; all pumps are in light liquid service. Types of pumps in use could include those with single mechanical seals, those with dual mechanical seals employing a barrier fluid, and pumps designated as “no detectable emissions” per the

requirements of 40 CFR 264-10529(e). All pumps subject to the RCRA Subpart BB requirements are managed according to the requirements appropriate to each type as described below. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

C11.B.5(a) Single Mechanical Seal Pumps [40 CFR 264.1052(a)-(c)]

Each pump is visually inspected weekly for indications of liquids dripping from the pump seal. Each pump is monitored monthly using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background, indicating a leak. When a leak is detected an initial attempt at repair is made within five days, with a final repair or replacement within 15 calendar days after detection.

C11.B.5(b) Double Mechanical Seal Pumps with Barrier Fluid [40 CFR 264.1052(a)-(d)]

Dual Mechanical Seal pumps are identified and managed per the requirements defined in 40 CFR 264.1052 (a-d). Any pump, fitted with a Dual Mechanical Seal that does not meet the aforementioned requirements are managed as Single Mechanical Seal pumps and managed per section C11.B.5(a).

Each pump is visually inspected each calendar week for indications of liquids dripping from the pump seal. If the visual inspection of the pump shows liquid dripping from the pump seal, or if the daily inspection of the barrier fluid level shows a sudden loss of fluid, or if the barrier fluid pressure or level alarm indicator is activated, a leak is detected. When a leak is detected an initial attempt at repair is made within five days, with final repair or replacement within 15 calendar days after detection.

C11.B.5(c) Pumps Designated as No Detectable Emissions [40 CFR 264.1052(e), 264.1064(g)(2)]

The site does not operate or maintain any pumps designated as “no detectable emissions” per the regulation.

C11.B.6 Compressors

[R 299.9631 and 40 CFR §270.25(d)]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053 or 40 CFR 264.1060.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

Compressors, that would be subject to the requirements of 40 CFR 264.1060, would be identified through the facilities management of change process using the criteria defined in the regulation.

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

The hazardous waste storage tank emergency relief vents are in gas vapor service because they are in contact with the vapor spaces of the hazardous waste storage tanks. If a potential leak is detected by audio, visual, or olfactory identification, the leak is verified by Method 21. An instrument reading of 500 ppm or greater above background will be taken as indicating a leak and a first attempt at repair will be made within five days, with final repair or replacement within 15 days. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, within 5 days of each pressure release as determined by Method 21 monitoring.

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

Each Sampling Connection System shall be operated per the requirements of 40 CFR264.1055. Per the regulation, the purged process fluid must meet one of the following requirements;

1. Returned the purged process fluid directly to the process line.
2. Collect and recycle the purged process fluid, or
3. Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 164.1084 – 164.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

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

Each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve is only removed/opened during operations requiring flow of hazardous wastes through the open-ended line. The cap, blind flange, or plug shall be replaced as soon as the operation is complete. Where an open-ended valve is equipped with a second valve, the valve on the hazardous waste end of the line is closed before closing the second valve.

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

All valves in hazardous waste service at this facility are in gas/vapor or light liquid service. Each valve is monitored for leaks using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background taken as indicating the presence of a leak.

Each valve is monitored by Method 21 per the requirements of 40 CFR 264.1057. In addition, the facility utilizes the alternate standards for valves in gas/vapor or light liquid service and employees skip periods based on the requirements described in 40 CFR 264.1062. The management and scheduling of Method 21 monitoring, based on these requirements, is controlled through the site fugitive emissions database.
The facility currently does not have any valves that are designated for “no detectable emissions” as described in 40 CFR 64.1057(f), Unsafe-to-Monitor as described in section 40

CFR 64.1057(g), or Difficult-to-Monitor as described in section 40 CFR 64.1057(h).

Valves, that would be subject to the requirements of 40 CFR 264.1057(f-h), would be identified through the facilities management of change process using the criteria defined in the regulation.

Whenever a leak is detected this is noted in the facility inspection log and an initial attempt at repair is made within five days and the valve is monitored again within five days of the repair attempt. If the initial attempt at repair is not successful, a final repair or replacement is made within 15 calendar days of the initial leak detection and the repaired or replaced valve is monitored within five days following the final repair or replacement. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

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)]

There are no pumps or valves in heavy liquid service at this facility.

Pressure relief devices in light liquid service at this facility are monitored within five days using U.S. EPA Method 21 if any visual, audible, olfactory, or other indication of a leak is observed. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

Flanges and other connectors are visually inspected daily as part of the facility inspection schedule (see Section 2.F, “Inspection Schedule”). If a leak is detected in any flange or other connector, the unit is monitored within five days using U.S. EPA Method 21. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

C11.B.12 Certification Statements

[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

See cover letter and EQP 5111/EQP 5150 forms that were certified by Dow Silicones Corporation authorized signer.

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)]

Dow Silicones is choosing to comply with BB requirements.

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

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 template addresses air emission control requirements for equipment leaks at the hazardous waste management facility for the Dow Silicones Corporation facility in Midland, 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

This template is organized as follows:

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C11.B.10 Valves in Gas/Vapor Service or in Light Liquid Service
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C11.B.12 Certification Statements
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

C11.B AIR EMISSIONS FROM EQUIPMENT LEAKS

[R 299.9631 and 40 CFR Part 264, Subpart BB]

☒ 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)]

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Dow Silicones Corporation computes total organic compound concentration from process knowledge as part of the waste characterization, as explained in Module A3 (Waste Analysis Plan).

C11.B.1(a)(1) Sampling Parameters
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Waste stream sampling procedures comply with 40 CFR §264.1034(d)(1)(i) and (ii) and are described in detail in Module A3 (Waste Analysis Plan).

C11.B.1(a)(2) Analytical Results
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Total organic compound concentrations are not computed using U.S. EPA test methods directly by Dow Silicones. Dow Silicones computes total organic compound concentration from process knowledge. Once Dow Silicones generates hazardous wastes, these wastes are directly containerized and eventually shipped off site for further processing or disposal. Dow Silicones does not treat waste at the Midland facility.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9631 and 40 CFR §264.1063(d)(3)]

The individual waste generator is responsible for determining the concentration of organic compounds and providing this documentation to the facility as part of the waste characterization process. Since the facility receives waste from any waste generated from the manufacturing facilities it is assumed to be subject to BB.

C11.B.1(c) Date and Frequency of Determination
[R 299.9631 and 40 CFR §264.1063(d)]

Dates and frequencies of total organic compound concentration determinations are not prescribed but are instead handled on a case by case basis as part of the generator waste characterization process as described in Module A3 (Waste Analysis Plan).

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

All pumps and valves at this facility that operate in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations. The determination that pumps and valves in the 806 tank farm and the adjacent trailer loading stations are in light liquid service was made using information in Dow Silicones' database of material composition and vapor pressures of constituents from standard reference texts.

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

All hazardous waste tanks and ancillary equipment at this facility are in contact with hazardous wastes containing organic compounds at concentrations greater than 10 percent

by weight for more than 300 hours per year and are not in vacuum service. All pumps, pressure relief devices, connectors, sampling connection systems, open-ended valves and lines, and valves in hazardous waste service are therefore subject to the requirements of 40 CFR 264 Subpart BB expect for those valves, connectors, and relief devices which are part of a tank cover and are therefore subject to Subpart CC requirements instead. Each piece of equipment to which these requirements apply is identified using a combination of color-coded drawings and/or identification tags so it can be readily distinguished from other equipment.

The table below shows the types and approximate number of components in BB service.

Component Type	Approximate Number
Agitators	0
Flanges and Other Connectors	205
Pumps	7
Pressure-Relief Devices	12
Valves	265

C11.B.3 Equipment with No Detectable Emissions
[R 299.9631 and 40 CFR §264.1064(g)(2)]

The facility does not, currently, operate any equipment that is subject to the requirements of 40 CFR 264.1064(g)(2).

Equipment, that would be subject to the requirements of 40 CFR 264.1064(g)(2), would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(a) Identification Numbers

[R 299.9631 and 40 CFR §264.1064(g)(1)]

See Appendix C11-2 for the subpart BB equipment list.

C11.B.3(b) Monitoring Procedures

[R 299.9631 and 40 CFR §264.1063]

Dow Silicones utilizes a third-party fugitive emissions contractor to conduct all fugitive emissions monitoring per the requirements of 40 CFR 264.1063 and Method 21.

The site fugitive emissions contractor is required to supply VOC monitoring equipment that meets the requirements described in Section 6.0 of EPA method 21.

The site fugitive emission contractor is required to calibrate and maintain the VOC monitoring equipment per the requirements of EPA Method 21 which includes daily calibration requirements and compliance with the requirements of Section 8 of EPA Method 21. Any VOC monitoring equipment that does not meet these requirements must be removed from service, tagged, and repaired per manufacturer's requirements before being returned to service.

The site fugitive emissions contractor trains and certifies their monitoring technicians per the requirements of Method 21. This includes equipment specific training on monitoring requirements and techniques for Valves, Flanges/Connectors, Pumps/Compressors, Pressure Relief Devices, Sample Connection Systems, etc. This training includes the operation of the VOC monitoring equipment, proper monitoring techniques for various equipment types, and identification of leaks.

The site fugitive emissions contractor maintains a QA/QC program to ensure continued compliance with the requirements described above and in EPA Method 21.

When monitoring a regulated unit, the instrument probe is traversed around all possible leak interfaces of that unit, as close to each leak interface as possible. Leak interfaces include pump seals, housing seals on sealed and magnetic drive pumps, emergency relief valve flanges and vent outlets, and valve stems and flanges.

C11.B.3(c) Comparison to Background

[R 299.9631 and 40 CFR §264.1063(c)(2)]

Background concentrations of chemical compounds are determined before Method 21 monitoring begins in any area. The background reading is updated anytime there is a significant change (+/- 10 ppm) in the background reading. The background reading is used to adjust the maximum ppm reading in order to create a net ppm reading in the fugitive emissions database. If an unusually high background reading is noted (100 ppm or higher) then all monitoring will stop until the high background reading has been addressed.

C11.B.3(d) Pump Standards

[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

Pumps, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Pumps are monitored, following Method 21, based on the requirements described in 40 CFR 64.1052 for Single Mechanical Seal, Dual Mechanical Seal, and pumps designated as “no detectable emissions” per 40 CFR 264.1052(e). In addition, Single Mechanical Seal and Dual Mechanical Seal pumps are visually inspected each calendar week for signs of liquids dripping from the seal. The operation of all pumps, associated with 806 tank farm, are documented in various material transfer procedures to ensure safe and consistent operation.

C11.B.3(e) Compressor Standards

[R 299.9631 and 40 CFR §264.1053]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(f) Valve Standards

[R 299.9631 and 40 CFR §264.1057 and 264.1058]

Valves, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Valves are monitored, following Method 21, based on the requirements described in 40 CFR 64.1057. The facility utilizes alternative standards for skip periods for valves in Light Liquid and Gas/Vapor service as described in 40 CFR 264.1062. Compliance with the requirements of 40 CFR 264.1062 is maintained using the site fugitive emissions database. The operation of valves, associated with 806 tank farm, are documented in various procedures to ensure safe and consistent operation.

C11.B.4 Closed-Vent Systems and Control Equipment

[R 299.9631 and 40 CFR §264.1060]

The facility does not, currently, operate any Closed-Vent Systems or other Control Equipment that are subject to the requirements of 40 CFR 264.1060, thus the following sections of C11.B.4 are not applicable. The hazardous waste tanks in 806 tank farm are operated as pressure vessels with a nitrogen blanket, see C.11.C for more details.

C11.B.4(a) Condenser
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(a)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b) Thermal Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(b)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B(4)(b)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c) Catalytic Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(c)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d) Boiler or Process Heater
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(d)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e) Flare
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(e)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f) Carbon Absorber
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(f)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(g) Implementation Schedule
[R 299.9630 and 40 CFR §270.25(b)]

C11.B.4(h) Other Control Devices
[R 299.9631 and 40 CFR §§264.1060(a) and 270.25(c)]

C11.B.4(h)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(h)(2) Performance Test Plan
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed Vent System
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(ii) Planned Timing
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3) Performance Test Results
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(i) Description of Actual Test Runs
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(ii) Velocity and Volumetric Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iii) Organic Compound Content
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iv) Total Organic Compound Mass Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(v) Total Organic Compound Emissions
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.5 Pumps in Light Liquid Service

[R 299.9631 and 40 CFR §270.25(d)]

All pumps at this facility in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations; all pumps are in light liquid service. Types of pumps in use could include those with single mechanical seals, those with dual mechanical seals employing a barrier fluid, and pumps designated as “no detectable emissions” per the

requirements of 40 CFR 264-10529(e). All pumps subject to the RCRA Subpart BB requirements are managed according to the requirements appropriate to each type as described below. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

C11.B.5(a) Single Mechanical Seal Pumps [40 CFR 264.1052(a)-(c)]

Each pump is visually inspected weekly for indications of liquids dripping from the pump seal. Each pump is monitored monthly using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background, indicating a leak. When a leak is detected an initial attempt at repair is made within five days, with a final repair or replacement within 15 calendar days after detection.

C11.B.5(b) Double Mechanical Seal Pumps with Barrier Fluid [40 CFR 264.1052(a)-(d)]

Dual Mechanical Seal pumps are identified and managed per the requirements defined in 40 CFR 264.1052 (a-d). Any pump, fitted with a Dual Mechanical Seal that does not meet the aforementioned requirements are managed as Single Mechanical Seal pumps and managed per section C11.B.5(a).

Each pump is visually inspected each calendar week for indications of liquids dripping from the pump seal. If the visual inspection of the pump shows liquid dripping from the pump seal, or if the daily inspection of the barrier fluid level shows a sudden loss of fluid, or if the barrier fluid pressure or level alarm indicator is activated, a leak is detected. When a leak is detected an initial attempt at repair is made within five days, with final repair or replacement within 15 calendar days after detection.

C11.B.5(c) Pumps Designated as No Detectable Emissions [40 CFR 264.1052(e), 264.1064(g)(2)]

The site does not operate or maintain any pumps designated as “no detectable emissions” per the regulation.

C11.B.6 Compressors

[R 299.9631 and 40 CFR §270.25(d)]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053 or 40 CFR 264.1060.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

Compressors, that would be subject to the requirements of 40 CFR 264.1060, would be identified through the facilities management of change process using the criteria defined in the regulation.

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

The hazardous waste storage tank emergency relief vents are in gas vapor service because they are in contact with the vapor spaces of the hazardous waste storage tanks. If a potential leak is detected by audio, visual, or olfactory identification, the leak is verified by Method 21. An instrument reading of 500 ppm or greater above background will be taken as indicating a leak and a first attempt at repair will be made within five days, with final repair or replacement within 15 days. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, within 5 days of each pressure release as determined by Method 21 monitoring.

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

Each Sampling Connection System shall be operated per the requirements of 40 CFR264.1055. Per the regulation, the purged process fluid must meet one of the following requirements;

1. Returned the purged process fluid directly to the process line.
2. Collect and recycle the purged process fluid, or
3. Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 164.1084 – 164.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

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

Each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve is only removed/opened during operations requiring flow of hazardous wastes through the open-ended line. The cap, blind flange, or plug shall be replaced as soon as the operation is complete. Where an open-ended valve is equipped with a second valve, the valve on the hazardous waste end of the line is closed before closing the second valve.

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

All valves in hazardous waste service at this facility are in gas/vapor or light liquid service. Each valve is monitored for leaks using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background taken as indicating the presence of a leak.

Each valve is monitored by Method 21 per the requirements of 40 CFR 264.1057. In addition, the facility utilizes the alternate standards for valves in gas/vapor or light liquid service and employees skip periods based on the requirements described in 40 CFR 264.1062. The management and scheduling of Method 21 monitoring, based on these requirements, is controlled through the site fugitive emissions database.
The facility currently does not have any valves that are designated for “no detectable emissions” as described in 40 CFR 64.1057(f), Unsafe-to-Monitor as described in section 40

CFR 64.1057(g), or Difficult-to-Monitor as described in section 40 CFR 64.1057(h).

Valves, that would be subject to the requirements of 40 CFR 264.1057(f-h), would be identified through the facilities management of change process using the criteria defined in the regulation.

Whenever a leak is detected this is noted in the facility inspection log and an initial attempt at repair is made within five days and the valve is monitored again within five days of the repair attempt. If the initial attempt at repair is not successful, a final repair or replacement is made within 15 calendar days of the initial leak detection and the repaired or replaced valve is monitored within five days following the final repair or replacement. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

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)]

There are no pumps or valves in heavy liquid service at this facility.

Pressure relief devices in light liquid service at this facility are monitored within five days using U.S. EPA Method 21 if any visual, audible, olfactory, or other indication of a leak is observed. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

Flanges and other connectors are visually inspected daily as part of the facility inspection schedule (see Section 2.F, “Inspection Schedule”). If a leak is detected in any flange or other connector, the unit is monitored within five days using U.S. EPA Method 21. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

C11.B.12 Certification Statements

[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

See cover letter and EQP 5111/EQP 5150 forms that were certified by Dow Silicones Corporation authorized signer.

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)]

Dow Silicones is choosing to comply with BB requirements.

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

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 template addresses air emission control requirements for equipment leaks at the hazardous waste management facility for the Dow Silicones Corporation facility in Midland, 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

This template is organized as follows:

C11.B AIR EMISSIONS FROM EQUIPMENT LEAKS
- C11.B.1 Waste Streams
  - C11.B.1(a) Organic Concentration Determination Via Direct Measurement
    - C11.B.1(a)(1) Sampling Parameters
    - C11.B.1(a)(2) Analytical Results
  - C11.B.1(b) Organic Concentration Determination Via Process Knowledge
  - C11.B.1(c) Date and Frequency of Determination
  - C11.B.1(d) Light or Heavy Liquid Designation
- C11.B.2 Equipment Identification
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- C11.B.3(d) Pump Standards
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C11.B.4 Closed-Vent Systems and Control Equipment

- C11.B.4(a) Condenser
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  - C11.B.4(a)(3) Design
  - C11.B.4(a)(4) Design Analysis
- C11.B.4(b) Thermal Vapor Incinerator
  - C11.B.4(b)(1) Identification Numbers
  - C11.B.4(b)(2) Applicable Standards
  - C11.B.4(b)(3) Design
  - C11.B.4(b)(4) Design Analysis
- C11.B.4(c) Catalytic Vapor Incinerator
  - C11.B.4(c)(1) Identification Numbers
  - C11.B.4(c)(2) Applicable Standards
  - C11.B.4(c)(3) Design
  - C11.B.4(c)(4) Design Analysis
- C11.B.4(d) Boiler or Process Heater
  - C11.B.4(d)(1) Identification Numbers
  - C11.B.4(d)(2) Applicable Standards
  - C11.B.4(d)(3) Design
  - C11.B.4(d)(4) Design Analysis
- C11.B.4(e) Flare
  - C11.B.4(e)(1) Identification Numbers
  - C11.B.4(e)(2) Applicable Standards
  - C11.B.4(e)(3) Design
  - C11.B.4(e)(4) Design Analysis
- C11.B.4(f) Carbon Absorber
  - C11.B.4(f)(1) Identification Numbers
  - C11.B.4(f)(2) Applicable Standards
  - C11.B.4(f)(3) Design
  - C11.B.4(f)(4) Design Analysis
- C11.B.4(g) Implementation Schedule
- C11.B.4(h) Other Control Devices
  - C11.B.4(h)(1) Identification Numbers
  - C11.B.4(h)(2) Performance Test Plan
    - C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed-Vent System
    - C11.B.4(h)(2)(ii) Planned Timing
    - C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
  - C11.B.4(h)(3) Performance Test Results
    - C11.B.4(h)(3)(i) Description of Actual Test Runs

C11.B.4(h)(3)(ii)	Velocity and Volumetric Flow Rate
C11.B.4(h)(3)(iii)	Organic Compound Content
C11.B.4(h)(3)(iv)	Total Organic Compound Mass Flow Rate
C11.B.4(h)(3)(v)	Total Organic Compound Emissions

C11.B.5 Pumps in Light Liquid Service
C11.B.6 Compressors
C11.B.7 Pressure Relief Devices in Gas/Vapor Service
C11.B.8 Sampling Connection Systems
C11.B.9 Open-ended Valves or Lines
C11.B.10 Valves in Gas/Vapor Service or in Light Liquid Service
C11.B.11 Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, Flanges, and Other Connectors
C11.B.12 Certification Statements
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

C11.B AIR EMISSIONS FROM EQUIPMENT LEAKS

[R 299.9631 and 40 CFR Part 264, Subpart BB]

☒ 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)]

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Dow Silicones Corporation computes total organic compound concentration from process knowledge as part of the waste characterization, as explained in Module A3 (Waste Analysis Plan).

C11.B.1(a)(1) Sampling Parameters
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Waste stream sampling procedures comply with 40 CFR §264.1034(d)(1)(i) and (ii) and are described in detail in Module A3 (Waste Analysis Plan).

C11.B.1(a)(2) Analytical Results
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Total organic compound concentrations are not computed using U.S. EPA test methods directly by Dow Silicones. Dow Silicones computes total organic compound concentration from process knowledge. Once Dow Silicones generates hazardous wastes, these wastes are directly containerized and eventually shipped off site for further processing or disposal. Dow Silicones does not treat waste at the Midland facility.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9631 and 40 CFR §264.1063(d)(3)]

The individual waste generator is responsible for determining the concentration of organic compounds and providing this documentation to the facility as part of the waste characterization process. Since the facility receives waste from any waste generated from the manufacturing facilities it is assumed to be subject to BB.

C11.B.1(c) Date and Frequency of Determination
[R 299.9631 and 40 CFR §264.1063(d)]

Dates and frequencies of total organic compound concentration determinations are not prescribed but are instead handled on a case by case basis as part of the generator waste characterization process as described in Module A3 (Waste Analysis Plan).

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

All pumps and valves at this facility that operate in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations. The determination that pumps and valves in the 806 tank farm and the adjacent trailer loading stations are in light liquid service was made using information in Dow Silicones' database of material composition and vapor pressures of constituents from standard reference texts.

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

All hazardous waste tanks and ancillary equipment at this facility are in contact with hazardous wastes containing organic compounds at concentrations greater than 10 percent

by weight for more than 300 hours per year and are not in vacuum service. All pumps, pressure relief devices, connectors, sampling connection systems, open-ended valves and lines, and valves in hazardous waste service are therefore subject to the requirements of 40 CFR 264 Subpart BB expect for those valves, connectors, and relief devices which are part of a tank cover and are therefore subject to Subpart CC requirements instead. Each piece of equipment to which these requirements apply is identified using a combination of color-coded drawings and/or identification tags so it can be readily distinguished from other equipment.

The table below shows the types and approximate number of components in BB service.

Component Type	Approximate Number
Agitators	0
Flanges and Other Connectors	205
Pumps	7
Pressure-Relief Devices	12
Valves	265

C11.B.3 Equipment with No Detectable Emissions
[R 299.9631 and 40 CFR §264.1064(g)(2)]

The facility does not, currently, operate any equipment that is subject to the requirements of 40 CFR 264.1064(g)(2).

Equipment, that would be subject to the requirements of 40 CFR 264.1064(g)(2), would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(a) Identification Numbers

[R 299.9631 and 40 CFR §264.1064(g)(1)]

See Appendix C11-2 for the subpart BB equipment list.

C11.B.3(b) Monitoring Procedures

[R 299.9631 and 40 CFR §264.1063]

Dow Silicones utilizes a third-party fugitive emissions contractor to conduct all fugitive emissions monitoring per the requirements of 40 CFR 264.1063 and Method 21.

The site fugitive emissions contractor is required to supply VOC monitoring equipment that meets the requirements described in Section 6.0 of EPA method 21.

The site fugitive emission contractor is required to calibrate and maintain the VOC monitoring equipment per the requirements of EPA Method 21 which includes daily calibration requirements and compliance with the requirements of Section 8 of EPA Method 21. Any VOC monitoring equipment that does not meet these requirements must be removed from service, tagged, and repaired per manufacturer's requirements before being returned to service.

The site fugitive emissions contractor trains and certifies their monitoring technicians per the requirements of Method 21. This includes equipment specific training on monitoring requirements and techniques for Valves, Flanges/Connectors, Pumps/Compressors, Pressure Relief Devices, Sample Connection Systems, etc. This training includes the operation of the VOC monitoring equipment, proper monitoring techniques for various equipment types, and identification of leaks.

The site fugitive emissions contractor maintains a QA/QC program to ensure continued compliance with the requirements described above and in EPA Method 21.

When monitoring a regulated unit, the instrument probe is traversed around all possible leak interfaces of that unit, as close to each leak interface as possible. Leak interfaces include pump seals, housing seals on sealed and magnetic drive pumps, emergency relief valve flanges and vent outlets, and valve stems and flanges.

C11.B.3(c) Comparison to Background

[R 299.9631 and 40 CFR §264.1063(c)(2)]

Background concentrations of chemical compounds are determined before Method 21 monitoring begins in any area. The background reading is updated anytime there is a significant change (+/- 10 ppm) in the background reading. The background reading is used to adjust the maximum ppm reading in order to create a net ppm reading in the fugitive emissions database. If an unusually high background reading is noted (100 ppm or higher) then all monitoring will stop until the high background reading has been addressed.

C11.B.3(d) Pump Standards

[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

Pumps, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Pumps are monitored, following Method 21, based on the requirements described in 40 CFR 64.1052 for Single Mechanical Seal, Dual Mechanical Seal, and pumps designated as “no detectable emissions” per 40 CFR 264.1052(e). In addition, Single Mechanical Seal and Dual Mechanical Seal pumps are visually inspected each calendar week for signs of liquids dripping from the seal. The operation of all pumps, associated with 806 tank farm, are documented in various material transfer procedures to ensure safe and consistent operation.

C11.B.3(e) Compressor Standards

[R 299.9631 and 40 CFR §264.1053]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

C11.B.3(f) Valve Standards

[R 299.9631 and 40 CFR §264.1057 and 264.1058]

Valves, that are used in 806 Tank Farm, are selected and operated based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Valves are monitored, following Method 21, based on the requirements described in 40 CFR 64.1057. The facility utilizes alternative standards for skip periods for valves in Light Liquid and Gas/Vapor service as described in 40 CFR 264.1062. Compliance with the requirements of 40 CFR 264.1062 is maintained using the site fugitive emissions database. The operation of valves, associated with 806 tank farm, are documented in various procedures to ensure safe and consistent operation.

C11.B.4 Closed-Vent Systems and Control Equipment

[R 299.9631 and 40 CFR §264.1060]

The facility does not, currently, operate any Closed-Vent Systems or other Control Equipment that are subject to the requirements of 40 CFR 264.1060, thus the following sections of C11.B.4 are not applicable. The hazardous waste tanks in 806 tank farm are operated as pressure vessels with a nitrogen blanket, see C.11.C for more details.

C11.B.4(a) Condenser
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(a)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(a)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b) Thermal Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(b)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(b)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B(4)(b)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c) Catalytic Vapor Incinerator
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(c)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(c)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d) Boiler or Process Heater
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(d)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(d)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e) Flare
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(e)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(e)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f) Carbon Absorber
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(f)(2) Applicable Standards
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(3) Design
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(f)(4) Design Analysis
[R 299.9631 and 40 CFR §264.1060(a)]

C11.B.4(g) Implementation Schedule
[R 299.9630 and 40 CFR §270.25(b)]

C11.B.4(h) Other Control Devices
[R 299.9631 and 40 CFR §§264.1060(a) and 270.25(c)]

C11.B.4(h)(1) Identification Numbers
[R 299.9631 and 40 CFR §270.25(a)(1)]

C11.B.4(h)(2) Performance Test Plan
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(i) Engineering Description of Control Device and Closed Vent System
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(ii) Planned Timing
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(2)(iii) Sampling and Monitoring Procedures
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3) Performance Test Results
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(i) Description of Actual Test Runs
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(ii) Velocity and Volumetric Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iii) Organic Compound Content
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(iv) Total Organic Compound Mass Flow Rate
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.4(h)(3)(v) Total Organic Compound Emissions
[R 299.9631 and 40 CFR §§264.1035(b)(3) and 270.25(c)]

C11.B.5 Pumps in Light Liquid Service

[R 299.9631 and 40 CFR §270.25(d)]

All pumps at this facility in hazardous waste service are located at the 806 tank farm and adjacent trailer loading stations; all pumps are in light liquid service. Types of pumps in use could include those with single mechanical seals, those with dual mechanical seals employing a barrier fluid, and pumps designated as “no detectable emissions” per the

requirements of 40 CFR 264-10529(e). All pumps subject to the RCRA Subpart BB requirements are managed according to the requirements appropriate to each type as described below. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

C11.B.5(a) Single Mechanical Seal Pumps [40 CFR 264.1052(a)-(c)]

Each pump is visually inspected weekly for indications of liquids dripping from the pump seal. Each pump is monitored monthly using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background, indicating a leak. When a leak is detected an initial attempt at repair is made within five days, with a final repair or replacement within 15 calendar days after detection.

C11.B.5(b) Double Mechanical Seal Pumps with Barrier Fluid [40 CFR 264.1052(a)-(d)]

Dual Mechanical Seal pumps are identified and managed per the requirements defined in 40 CFR 264.1052 (a-d). Any pump, fitted with a Dual Mechanical Seal that does not meet the aforementioned requirements are managed as Single Mechanical Seal pumps and managed per section C11.B.5(a).

Each pump is visually inspected each calendar week for indications of liquids dripping from the pump seal. If the visual inspection of the pump shows liquid dripping from the pump seal, or if the daily inspection of the barrier fluid level shows a sudden loss of fluid, or if the barrier fluid pressure or level alarm indicator is activated, a leak is detected. When a leak is detected an initial attempt at repair is made within five days, with final repair or replacement within 15 calendar days after detection.

C11.B.5(c) Pumps Designated as No Detectable Emissions [40 CFR 264.1052(e), 264.1064(g)(2)]

The site does not operate or maintain any pumps designated as “no detectable emissions” per the regulation.

C11.B.6 Compressors

[R 299.9631 and 40 CFR §270.25(d)]

The facility does not, currently, operate any compressors that are subject to the requirements of 40 CFR 264.1053 or 40 CFR 264.1060.

Compressors, that would be subject to the requirements of 40 CFR 264.1053, would be identified through the facilities management of change process using the criteria defined in the regulation.

Compressors, that would be subject to the requirements of 40 CFR 264.1060, would be identified through the facilities management of change process using the criteria defined in the regulation.

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

The hazardous waste storage tank emergency relief vents are in gas vapor service because they are in contact with the vapor spaces of the hazardous waste storage tanks. If a potential leak is detected by audio, visual, or olfactory identification, the leak is verified by Method 21. An instrument reading of 500 ppm or greater above background will be taken as indicating a leak and a first attempt at repair will be made within five days, with final repair or replacement within 15 days. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, within 5 days of each pressure release as determined by Method 21 monitoring.

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

Each Sampling Connection System shall be operated per the requirements of 40 CFR264.1055. Per the regulation, the purged process fluid must meet one of the following requirements;

1. Returned the purged process fluid directly to the process line.
2. Collect and recycle the purged process fluid, or
3. Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 164.1084 – 164.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

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

Each open-ended valve or line is sealed with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve is only removed/opened during operations requiring flow of hazardous wastes through the open-ended line. The cap, blind flange, or plug shall be replaced as soon as the operation is complete. Where an open-ended valve is equipped with a second valve, the valve on the hazardous waste end of the line is closed before closing the second valve.

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

All valves in hazardous waste service at this facility are in gas/vapor or light liquid service. Each valve is monitored for leaks using U.S. EPA Method 21, with an instrument reading of 10,000 ppm or greater above background taken as indicating the presence of a leak.

Each valve is monitored by Method 21 per the requirements of 40 CFR 264.1057. In addition, the facility utilizes the alternate standards for valves in gas/vapor or light liquid service and employees skip periods based on the requirements described in 40 CFR 264.1062. The management and scheduling of Method 21 monitoring, based on these requirements, is controlled through the site fugitive emissions database.
The facility currently does not have any valves that are designated for “no detectable emissions” as described in 40 CFR 64.1057(f), Unsafe-to-Monitor as described in section 40

CFR 64.1057(g), or Difficult-to-Monitor as described in section 40 CFR 64.1057(h).

Valves, that would be subject to the requirements of 40 CFR 264.1057(f-h), would be identified through the facilities management of change process using the criteria defined in the regulation.

Whenever a leak is detected this is noted in the facility inspection log and an initial attempt at repair is made within five days and the valve is monitored again within five days of the repair attempt. If the initial attempt at repair is not successful, a final repair or replacement is made within 15 calendar days of the initial leak detection and the repaired or replaced valve is monitored within five days following the final repair or replacement. All data associated with the monitoring and repair of leaking equipment is recorded and tracked in the site fugitive emissions database.

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)]

There are no pumps or valves in heavy liquid service at this facility.

Pressure relief devices in light liquid service at this facility are monitored within five days using U.S. EPA Method 21 if any visual, audible, olfactory, or other indication of a leak is observed. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

Flanges and other connectors are visually inspected daily as part of the facility inspection schedule (see Section 2.F, “Inspection Schedule”). If a leak is detected in any flange or other connector, the unit is monitored within five days using U.S. EPA Method 21. If this monitoring results in an instrument reading of 10,000 ppm above background or greater a leak is indicated and a first attempt at repair is made as soon as practicable, but no later than five days after detection. If this initial attempt at repair is not successful a final repair or replacement is made within 15 calendar days after detection.

C11.B.12 Certification Statements

[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]

See cover letter and EQP 5111/EQP 5150 forms that were certified by Dow Silicones Corporation authorized signer.

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)]

Dow Silicones is choosing to comply with BB requirements.

Appendix C11-2 Subpart BB Equipment List					
Updated March 2022					
Area Descrip	Componer	Component	Component	Stream Descrip	Location Description
806	055223	PUMP	W/DUAL ME	RCRA WASTE	G/0 6FT S TK 19785 NSD P-19785
806	052562	PUMP	MONTHLY	RCRA WASTE	G/0 7FT NW TK 19784 P P1-19784B
806	052581	PUMP	MONTHLY	RCRA WASTE	G/0 7FT NW TK 19783 P P1-19783
806	052694	PUMP	MONTHLY	RCRA WASTE	G/0 7FT NW TK 19782 P P1-19782
806	055015	PUMP	MONTHLY	RCRA WASTE	STA-2 NWSD 0/0 P1-19789
806	056655	PUMP	MONTHLY	RCRA WASTE	G/0 ESD LR STAT 1 P P2-19789
806	052734	PUMP	MONTHLY	RCRA WASTE	G/0 8FT NE TK 19781 P1 19781
806	052802	VALVE	CHK	RCRA WASTE	1/3 SESD TK 19782 CHK
806	052801	VALVE		RCRA WASTE	1/4 SESD TK 19782
806	100560	CONECT	REG	RCRA WASTE	1/4 SESD TK 19782 REG
806	056832	VALVE	CHK	RCRA WASTE	1/5 SESD TK 19782 CHK
806	054241	VALVE		RCRA WASTE	1/8 ESD TK 19782 BLD
806	054053	VALVE	CHK	RCRA WASTE	1/5 NESD TK 19784
806	056836	VALVE		RCRA WASTE	1/5 NESD TK 19784 PG
806	055256	VALVE		RCRA WASTE	1/5 NESD TK 19784 PG BLD
806	052833	VALVE		RCRA WASTE	1/2 NESD TK 19784
806	055257	VALVE		RCRA WASTE	1/3 NESD TK 19784
806	054055	VALVE	CHK	RCRA WASTE	1/2 NESD TK 19784
806	052832	VALVE		RCRA WASTE	1/3 NESD TK 19784 BYP
806	052584	VALVE	BALL	RCRA WASTE	G/3 7FT NW TK 19783 WSD P1-19783 S BLD
806	052715	VALVE	PLUG	RCRA WASTE	0/2 BLW TK 19783
806	054850	VALVE	MOV	RCRA WASTE	0/4 BTM TK 19783 MOV TSV 21
806	052716	VALVE	BALL	RCRA WASTE	0/1 BTM TK 19786
806	052725	VALVE	BALL	RCRA WASTE	TK-19781 BLW 0/2
806	052706	VALVE	PLUG	RCRA WASTE	0/8 NESD TK 19782
806	056825	VALVE	BALL	RCRA WASTE	G/4 3FT E TK 19781 DIS P P1 19781 BLD
806	052582	VALVE	BALL	RCRA WASTE	G/3 7FT NW TK 19783 P1-19783 N BLD
806	056824	VALVE	BALL	RCRA WASTE	G/4 ABV P P1 19781 BLD
806	052583	VALVE	NEEDLE	RCRA WASTE	G/3 7FT NW TK 19783 P1-19783
806	056821	VALVE	BALL	RCRA WASTE	G/2 NSD TK 19786
806	052735	VALVE	BALL	RCRA WASTE	G/5 ABV P P1 19781 PG
806	056823	VALVE	PLUG	RCRA WASTE	G/4 ABV P P1 19781 PG BLD
806	052576	VALVE	PLUG	RCRA WASTE	0/2 6FT W TK 19783 SUCT P1-19783
806	052717	VALVE	BALL	RCRA WASTE	G/1 BTM TK 19786 BLD
806	052578	VALVE	NEEDLE	RCRA WASTE	G/3 7FT W TK 19783 SUCT P1-19783
806	052559	VALVE	NEEDLE	RCRA WASTE	G/3 6FT W TK 19784 SUCT P1-19784
806	052699	VALVE	BALL	RCRA WASTE	G/4 7FT NW TK 19782 WSD P1-19782 BLD
806	055251	VALVE	BALL	RCRA WASTE	TK-19724 6FT W 0/2 P1-19784 DIS
806	052705	VALVE	PLUG	RCRA WASTE	0/4 6FT NW TK 19782 ESD P1-19782
806	056979	VALVE	NEEDLE	RCRA WASTE	G/3 7FT W TK 19782 SUCT P1-19782
806	052566	VALVE	BALL	RCRA WASTE	G/4 7FT NW TK 19784 DIS P1-19784 BLD
806	055252	VALVE	MOV	RCRA WASTE	0/5 7FT NW TK 19784 DIS P1-19784 CV-104
806	054999	VALVE	BALL	RCRA WASTE	G/7 SWSD TK 19785
806	052695	VALVE	BALL	RCRA WASTE	G/3 7FT NW TK 19782 WSD P1-19782 N BLD
806	052561	VALVE	BALL	RCRA WASTE	G/1 6FT W TK 19784 SUCT P1-19784 BLD
806	052710	VALVE	PLUG	RCRA WASTE	0/2 BLW TK 19782
806	157670	VALVE	MOV	RCRA WASTE	TK-19785 BTM 0/4 TSV-24
806	052590	VALVE	MOV	RCRA WASTE	0/5 7FT NW TK 19783 DIS P1-19783 CV-103
806	055250	VALVE	BALL	RCRA WASTE	G/2 6FT W TK 19784 SUCT P1-19784

806	052571	VALVE	PLUG	RCRA WASTE	0/4 6FT NW TK 19784 ESD P1-19784
806	052532	VALVE	PLUG	RCRA WASTE	0/8 SWSD TK 19785
806	054056	VALVE	MOV	RCRA WASTE	0/4 WSD P P1 19781 CV 101
806	052572	VALVE	PLUG	RCRA WASTE	0/4 6FT NW TK 19784 ESD P1-19784
806	052703	VALVE	MOV	RCRA WASTE	0/5 7FT NW TK 19782 DIS P1-19782 W
806	055254	VALVE	MOV	RCRA WASTE	0/4 BTM TK 19782 TSV-20
806	052693	VALVE	BALL	RCRA WASTE	G/1 7FT W TK 19782 SUCT P1-19782 BLD
806	052563	VALVE	BALL	RCRA WASTE	G/3 7FT NW TK 19784 SSD P1-19784 BLD
806	052724	VALVE	MOV	RCRA WASTE	TK-19871 BLW 0/1 16095-A
806	052704	VALVE	PLUG	RCRA WASTE	0/4 6FT NW TK 19782 ESD P1-19782
806	052723	VALVE	MOV	RCRA WASTE	TK-19781 BLW 0/1 16095-B
806	054224	VALVE	MOV	RCRA WASTE	TK-19786 BTM 0/4 TSV-23
806	054225	VALVE	MOV	RCRA WASTE	TK-19781 BTM 0/4 TSV-19
806	052589	VALVE	PLUG	RCRA WASTE	0/5 7FT NW TK 19783 DIS P1-19783 W
806	052701	VALVE	MOV	RCRA WASTE	0/5 7FT NW TK 19782 DIS P1-19782 E HV-13852
806	052697	VALVE	BALL	RCRA WASTE	G/3 7FT NW TK 19782 WSD P1-19782 S BLD
806	052538	VALVE	BALL	RCRA WASTE	G/7 NESD TK 19784
806	052592	VALVE	PLUG	RCRA WASTE	G/4 7FT NW TK 19783 ESD P1-19783
806	052591	VALVE	PLUG	RCRA WASTE	0/4 7FT NW TK 19783 ESD P1-19783
806	052579	VALVE	BALL	RCRA WASTE	G/2 7FT W TK 19783 SUCT P1-19783 BLD
806	052689	VALVE	PLUG	RCRA WASTE	0/2 6FT W TK 19782 SUCT P1-19782
806	052696	VALVE	NEEDLE	RCRA WASTE	G/3 7FT NW TK 19782 WSD P1-19782
806	052713	VALVE	BALL	RCRA WASTE	G/7 NESD TK 19783
806	052580	VALVE	BALL	RCRA WASTE	G/1 7FT W TK 19783 SUCT P1-19783 BLD
806	055225	VALVE	BALL	RCRA WASTE	0/8 NESD TK 19784
806	052541	VALVE	PLUG	RCRA WASTE	0/2 BLW TK 19784
806	052558	VALVE	BALL	RCRA WASTE	G/3 6FT W TK 19784 SUCT P1-19784 BLD
806	052557	VALVE	PLUG	RCRA WASTE	0/2 6FT W TK 19784 SUCT P1-19784
806	055253	VALVE	BALL	RCRA WASTE	G/2 7FT W TK 19782 SUCT P1-19782 BLD
806	052569	VALVE	PLUG	RCRA WASTE	0/5 7FT NW TK 19784 DIS P1-19784 W
806	052564	VALVE	NEEDLE	RCRA WASTE	G/3 7FT NW TK 19784 SSD P1-19784
806	052711	VALVE	PLUG	RCRA WASTE	0/8 NESD TK 19783
806	052577	VALVE	BALL	RCRA WASTE	G/3 7FT W TK 19783 SUCT P1-19783 BLD
806	052574	VALVE	BALL	RCRA WASTE	G/8 7FT SW TK 19783 BLD
806	057264	VALVE	NEEDLE	RCRA WASTE	G/4 7FT NW TK 19784 DIS P1-19784 W
806	052818	RELIEF	PSV TO ATM	RCRA WASTE	1/3 SWSD TK 19783
806	054610	VALVE		RCRA WASTE	1/4 ESD TK 19786 MOV
806	055430	VALVE		RCRA WASTE	STA-2 SESD 0/4
806	056833	VALVE	MOV	RCRA WASTE	TK-19782 WSD 1/4 LV-8
806	055428	VALVE	MOV	RCRA WASTE	TK-19784 WSD 1/4 LV-10
806	056835	VALVE	MOV	RCRA WASTE	TK-19783 WSD 1/2 LV-9
806	052594	VALVE		RCRA WASTE	STA-2 NSD 0/2 P1-19789
806	052626	VALVE		RCRA WASTE	G/5 WSD LR STAT 1 PG BLD
806	056734	VALVE		RCRA WASTE	STA-2 SWSD 0/4 W
806	054195	VALVE		RCRA WASTE	STA -2 SSD 0/4 W
806	052625	VALVE		RCRA WASTE	0/4 NESD LR STAT 1 E
806	052779	RELIEF	PSV TO ATM	RCRA WASTE	1/4 SWSD TK 19786
806	052573	VALVE	MOV	RCRA WASTE	0/8 7FT SW TK 19783 S FV-33
806	052616	VALVE		RCRA WASTE	0/4 NESD LR STAT 1 W
806	052609	VALVE		RCRA WASTE	STA -2 SSD 0/4 E
806	056913	VALVE		RCRA WASTE	STA-2 NWSD 0/2 SSD P P1-19789
806	056720	VALVE	MOV	RCRA WASTE	0/4 BTM TK 19784 TSV 22

806	052770	RELIEF	PSV TO ATM	RCRA WASTE	1/4 NWSD TK 19785 PFRM
806	052617	VALVE		RCRA WASTE	0/4 NWSD LR STAT 1 E
806	056841	VALVE		RCRA WASTE	0/3 WSD LR STAT 1 FV-30
806	052786	VALVE		RCRA WASTE	1/5 NSD TK 19781 PG
806	055427	VALVE	BALL	RCRA WASTE	1/5 SWSD TK 19785 PG BLD
806	054060	VALVE		RCRA WASTE	0/3 NWSD LR STAT 1 N
806	052622	VALVE		RCRA WASTE	G/2 NSD LR STAT 1 FLTR BLD
806	052773	VALVE		RCRA WASTE	1/3 NWSD TK 19785 PFRM
806	056828	VALVE	CHK	RCRA WASTE	1/2 NWSD TK 19785
806	052760	VALVE		RCRA WASTE	1/4 WSD TK 19785
806	052785	VALVE		RCRA WASTE	1/5 NSD TK 19781 PG BLD
806	054230	VALVE		RCRA WASTE	1/4 NWSD TK 19785 BLD PFRM
806	052613	VALVE		RCRA WASTE	STA -2 SSD 0/4
806	052666	VALVE		RCRA WASTE	STA-2 SWSD 0/2 SSD FLTR
806	052653	VALVE		RCRA WASTE	0/3 WSD LR STAT 1
806	052795	RELIEF	PSV TO ATM	RCRA WASTE	1/3 NWSD TK 19781
806	055258	VALVE		RCRA WASTE	1/5 NESD TK 19784 PG
806	052820	VALVE		RCRA WASTE	1/6 NESD TK 19784 PG BLD
806	056510	VALVE		RCRA WASTE	1/3 NESD TK 19784
806	056509	VALVE		RCRA WASTE	1/5 NESD TK 19783 PG
806	054233	VALVE		RCRA WASTE	1/5 NWSD TK 19786 PG BLD
806	054601	VALVE	MOV	RCRA WASTE	0/8 7FT SW TK 19783 N FV-333
806	052814	VALVE		RCRA WASTE	1/4 ESD TK 19783
806	056834	VALVE		RCRA WASTE	1/6 NESD TK 19783 PG BLD
806	054051	VALVE		RCRA WASTE	1/3 NESD TK 19783
806	054240	VALVE		RCRA WASTE	1/2 SESD TK 19782
806	052783	VALVE		RCRA WASTE	1/5 NWSD TK 19786 PG
806	052778	VALVE		RCRA WASTE	1/4 SWSD TK 19786
806	052826	RELIEF	PSV TO ATM	RCRA WASTE	1/3 NSD TK 19784
806	052810	RELIEF	PSV TO ATM	RCRA WASTE	1/4 SWSD TK 19782
806	052759	VALVE		RCRA WASTE	1/4 SWSD TK 19785
806	056980	VALVE		RCRA WASTE	1/5 SWSD TK 19785 PG
806	052657	VALVE		RCRA WASTE	G/5 WSD LR STAT 1 PG S
806	052739	VALVE	BALL	RCRA WASTE	G/1 7FT E TK 19781 BLD
806	056982	VALVE		RCRA WASTE	G/5 WSD LR STAT 1 PG N
806	052624	VALVE		RCRA WASTE	G/2 NESD LR STAT 1 BLD
806	052619	VALVE		RCRA WASTE	G/3 NSD LR STAT 1 PG
806	052708	VALVE	BALL	RCRA WASTE	G/7 NESD TK 19782 BLD
806	052707	VALVE	BALL	RCRA WASTE	G/8 NESD TK 19782 BLD
806	056730	VALVE		RCRA WASTE	G/2 NWSD LR STAT 1 N BLD
806	056817	VALVE		RCRA WASTE	G/3 NSD LR STAT 1 PG BLD
806	052656	VALVE		RCRA WASTE	0/4 WSD LR STAT 1 S
806	052629	VALVE		RCRA WASTE	G/3 ESD LR STAT 1 NSD P P2-19789 BLD
806	052618	VALVE		RCRA WASTE	0/3 NWSD LR STAT 1 S
806	052738	VALVE	PLUG	RCRA WASTE	G/2 8FT NE TK 19781 SSD P P-119781 PG
806	052690	VALVE	BALL	RCRA WASTE	G/3 7FT W TK 19782 SUCT P1-19782 BLD
806	052533	VALVE	BALL	RCRA WASTE	G/8 SWSD TK 19785
806	054197	VALVE		RCRA WASTE	G/2 WSD LR STAT 1 SSD BLD
806	052712	VALVE	BALL	RCRA WASTE	G/8 NESD TK 19783
806	055226	VALVE	BALL	RCRA WASTE	G/8 NESD TK 19784
806	052652	VALVE		RCRA WASTE	G/2 WSD LR STAT 1 NSD BLD
806	052663	VALVE		RCRA WASTE	G/2 NWSD LR STAT 1 S BLD

806	052646	VALVE		RCRA WASTE	0/3 SWSD LR STAT 1 MOV
806	052660	VALVE		RCRA WASTE	0/4 WSD LR STAT 1
806	056733	VALVE		RCRA WASTE	0/3 SWSD LR STAT 1
806	052636	VALVE		RCRA WASTE	0/3 SSD LR STAT 1
806	054603	VALVE		RCRA WASTE	0/3 ESD LR STAT 1 SSD P P2-19789
806	056732	VALVE		RCRA WASTE	G/3 ESD LR STAT 1 SSD P P2-19789 BLD
806	052659	VALVE		RCRA WASTE	0/6 WSD LR STAT 1 N
806	052675	VALVE		RCRA WASTE	STA-2 NWSD 0/3 NSD P1-19789
806	052662	VALVE		RCRA WASTE	0/4 NWSD LR STAT 1 W
806	052610	VALVE		RCRA WASTE	STA -2 SSD 0/4 BLD
806	054851	VALVE		RCRA WASTE	STA -2 SESD 0/4 S BLD
806	052602	VALVE		RCRA WASTE	STA -2 SESD 0/4 S
806	052603	VALVE		RCRA WASTE	STA -2 SESD 0/4 PG
806	052599	VALVE		RCRA WASTE	STA -2 SESD 0/4 N BLD
806	052668	VALVE		RCRA WASTE	STA -2 SESD 0/4 PG BLD
806	052601	VALVE		RCRA WASTE	0/6 SESD LR STAT 2
806	055261	VALVE		RCRA WASTE	STA -2 SESD 0/4
806	056818	VALVE		RCRA WASTE	STA -2 SWSD 0/1 FLTR SSD BLD
806	052596	VALVE		RCRA WASTE	STA-2 NESD 0/2 P1-19789
806	054239	VALVE		RCRA WASTE	1/3 NESD TK 19782
806	052688	VALVE		RCRA WASTE	1/4 SWSD LR STAT 2 NSD PG
806	056735	VALVE		RCRA WASTE	STA-2 NWSD 0/1 P1-19789 BTM BLD
806	055259	VALVE		RCRA WASTE	STA-2 SWSD 0/4 PG BLD
806	054196	VALVE		RCRA WASTE	STA -2 SSD 0/4 BLD
806	054238	VALVE		RCRA WASTE	1/6 NESD TK 19782 PG BLD
806	054613	VALVE		RCRA WASTE	1/6 NESD TK 19782 PG
806	052670	VALVE		RCRA WASTE	STA-2 SWSD 0/6
806	054607	VALVE		RCRA WASTE	STA-2 SWSD 0/5 SSD PG
806	052593	VALVE		RCRA WASTE	STA-2 NSD 0/3
806	052741	VALVE	BALL	RCRA WASTE	G/2 3FT NE TK 19781 PG BLD
806	052740	VALVE	BALL	RCRA WASTE	0/2 6FT SE TK 19781 SUCT P P1 19781
806	052767	RELIEF	PSV TO ATM	RCRA WASTE	1/5 NWSD TK 19785
806	052774	RELIEF	PSV TO ATM	RCRA WASTE	1/6 SWSD TK 19786
806	052792	RELIEF	PSV TO ATM	RCRA WASTE	1/5 NWSD TK 19781
806	056831	VALVE	MOV	RCRA WASTE	TK 19781 NSD 1/4 LV-7
806	052799	VALVE		RCRA WASTE	1/3 ESD TK 19782
806	052807	RELIEF	PSV TO ATM	RCRA WASTE	1/5 SWSD TK 19782
806	018894	RELIEF	PSV TO ATM	RCRA WASTE	T/3 SWSD TK 19783 PRV
806	052823	RELIEF	PSV TO ATM	RCRA WASTE	1/5 NSD TK 19784
806	054073	VALVE		RCRA WASTE	1/4 ESD TK 19784
806	054043	VALVE	BALL	RCRA WASTE	G/4 7FT NW TK 19784 DIS P1-19784 E
806	052588	CONECT	FLANGE	RCRA WASTE	G/4 7FT NW TK 19783 DIS P P1-197 83 CHK
806	054045	VALVE	BALL	RCRA WASTE	G/4 7FT NW TK 19783 DIS P1-19783 E
806	052700	CONECT	FLANGE	RCRA WASTE	G/4 7FT NW TK 19782 DIS P P1-197 82 CHK
806	056731	VALVE		RCRA WASTE	G/3 ESD LR STAT 1 SSD P P2-19789
806	052635	VALVE		RCRA WASTE	G/2 ESD LR STAT 1 BTM P P2-19789 BLD
806	054063	VALVE		RCRA WASTE	0/2 SSD LR STAT 1 MOV
806	052628	VALVE		RCRA WASTE	0/3 ESD LR STAT 1
806	052743	VALVE	R/S	RCRA WASTE	0/3 3FT NE TK 19781
806	052747	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 SE
806	052744	VALVE	R/S	RCRA WASTE	0/3 2FT NE TK 19781 E
806	052746	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 SW

806	052745	VALVE	R/S	RCRA WASTE	0/3 2FT NE TK 19781 W
806	052727	VALVE	R/S	RCRA WASTE	0/3 2FT NE TK 19781 N
806	056822	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 NW
806	052731	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 W
806	052732	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 E
806	052728	VALVE	R/S	RCRA WASTE	0/3 3FT NE TK 19781
806	052742	VALVE	BALL	RCRA WASTE	G/1 3FT NE TK 19781 BLD
806	052729	VALVE	PLUG	RCRA WASTE	0/4 2FT NE TK 19781 NE
806	052772	VALVE		RCRA WASTE	1/5 NSD TK 19785 MOV PFRM
806	056827	VALVE	CHK	RCRA WASTE	1/5 NWSD TK 19785
806	055255	VALVE		RCRA WASTE	1/5 NWSD TK 19785 PG
806	052763	VALVE		RCRA WASTE	1/4 NWSD TK 19785 PG BLD
806	052764	VALVE		RCRA WASTE	1/4 NWSD TK 19785
806	052839	CONECT	REG	RCRA WASTE	1/3 NWSD TK 19785 REG
806	054228	VALVE		RCRA WASTE	1/3 NWSD TK 19785 BYP
806	054237	VALVE	MOV	RCRA WASTE	TK-19781 NSD 1/5 FV-2
806	054236	VALVE	MOV	RCRA WASTE	TK-19781 NSD 1/5 FV-4
806	054975	VALVE	BALL	RCRA WASTE	0/1 10FT E TK 19785 TLR-3 WSD BLD
806	052521	VALVE	BALL	RCRA WASTE	0/3 5FT E TK 19785
806	052523	VALVE	BALL	RCRA WASTE	0/3 2FT E TK 19785
806	055425	VALVE	BALL	RCRA WASTE	0/5 9FT SE TK 19785
806	054548	VALVE	BALL	RCRA WASTE	G/4 9FT SE TK 19785 PG
806	054041	VALVE	BALL	RCRA WASTE	G/4 9FT SE TK 19785 PG BLD
806	056826	VALVE	BALL	RCRA WASTE	TK-19785 9FT SE 0/4
806	054549	VALVE	BALL	RCRA WASTE	0/3 9FT SE TK 19785 BLD
806	056977	VALVE	BALL	RCRA WASTE	0/3 8FT S TK 19785
806	052512	VALVE	BALL	RCRA WASTE	0/4 8FT S TK 19785
806	056816	VALVE	PLUG	RCRA WASTE	TK-19785 BTM 0/4
806	055265	VALVE		RCRA WASTE	1/2 SWSD LR STAT 2
806	052648	VALVE		RCRA WASTE	0/3 MID LR STAT 1 WSD P P2-1978 9
806	055431	VALVE		RCRA WASTE	0/2 SESD LR STAT 1 FV-31
806	052640	VALVE		RCRA WASTE	G/2 SESD LR STAT 1 PG
806	056721	VALVE		RCRA WASTE	G/2 SESD LR STAT 1 PG BLD
806	052702	VALVE	PLUG	RCRA WASTE	0/5 7FT NW TK 19782 DIS P1-19782
806	052698	VALVE	NEEDLE	RCRA WASTE	G/4 7FT NW TK 19782 WSD P1-19782
806	056820	VALVE	BALL	RCRA WASTE	G/4 7FT NW TK 19783 DIS P1-19783 BLD
806	056981	VALVE		RCRA WASTE	STA-2 NWSD 0/2 NSD P1-19789
806	052614	VALVE		RCRA WASTE	STA -2 SSD 0/2
806	056505	VALVE	BALL	RCRA WASTE	0/2 SSD P-19785 BLD
806	054998	VALVE	BALL	RCRA WASTE	0/2 NSD P-19785 BLD
806	054997	VALVE	BALL	RCRA WASTE	G/3 NSD P-19785 PG
806	052525	VALVE	BALL	RCRA WASTE	G/3 NSD P-19785 PG BLD
806	054995	VALVE	NEEDLE	RCRA WASTE	TK-19785 6FT E 0/3 PG
806	056506	VALVE	BALL	RCRA WASTE	G/3 6FT E TK 19785 PG BLD
806	054854	VALVE	BALL	RCRA WASTE	G/2 7FT E TK 19785 FLTR BLD
806	054994	VALVE	NEEDLE	RCRA WASTE	TK-19785 8FT E 0/4 PG
806	054039	VALVE	BALL	RCRA WASTE	G/4 8FT E TK 19785 PG BLD
806	054037	VALVE	BALL	RCRA WASTE	TK-19785 10FT E 0/2 WSD TLR-3 WSD
806	055223.1	CONECT	FLANGE	RCRA WASTE	G/2 4FT SE TK 19785 SSD P-19785
806	055223.2	CONECT	FLANGE	RCRA WASTE	G/2 4FT SE TK 19785 TOP P-19785
806	052530	CONECT	FLANGE	RCRA WASTE	G/7 9FT SE TK 19785
806	052529	CONECT	FLANGE	RCRA WASTE	G/5 6FT SE TK 19785 TX

806	052524	CONECT	FLANGE	RCRA WASTE	G/2 SESD TK 19785
806	052522	CONECT	FLANGE	RCRA WASTE	G/2 ESD TK 19785
806	052517	CONECT	FLANGE	RCRA WASTE	G/3 7FT E TK 19785 FLTR
806	052517.1	CONECT	FLANGE	RCRA WASTE	G/3 7FT E TK 19785 FLTR
806	052517.2	CONECT	FLANGE	RCRA WASTE	G/3 7FT E TK 19785 FLTR
806	054037.1	CONECT	FLANGE	RCRA WASTE	G/3 10FT E TK 19785
806	054037.2	CONECT	FLANGE	RCRA WASTE	G/3 10FT E TK 19785
806	052803	VALVE		RCRA WASTE	1/3 SESD TK 19782
806	056507	VALVE	PLUG	RCRA WASTE	G/4 7FT NW TK 19783 DIS P1-19783 W
806	052604	VALVE		RCRA WASTE	STA -2 SESD 0/4
806	055424	VALVE	BALL	RCRA WASTE	TK-19785 25FT SE 0/5 TLR-3 SSD
806	055424.1	CONECT	FLANGE	RCRA WASTE	TK-19785 25FT SE 0/5
806	055424.2	CONECT	FLANGE	RCRA WASTE	TK-19785 25FT SE 0/5
806	054036	VALVE	BALL	RCRA WASTE	TK-19785 25FT SE 0/6 TLR-3 SSD BLD S
806	054151.1	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	054151.2	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	054151.3	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	054151.4	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6 ELB
806	054151.5	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6 PLG
806	056508	VALVE	BALL	RCRA WASTE	TK-19785 25FT SE 0/6 TLR-3 SSD BLD N
806	056508.1	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	056508.2	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6 PLG
806	055222	VALVE	PLUG	RCRA WASTE	TK-19785 25FT SE 0/6 TLR-3 SSD
806	055222.1	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6 PG
806	055222.2	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6 PLG
806	055222.3	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	055222.4	CONECT	THREADED	RCRA WASTE	TK-19785 25FT SE 0/6
806	053857	VALVE		RCRA WASTE	0/2 SSD LR STAT 1 PG
806	053857.1	CONECT	FLANGE	RCRA WASTE	G/2 SSD LR STAT 1 PG
806	053857.2	CONECT	FLANGE	RCRA WASTE	G/2 SSD LR STAT 1 PG
806	053858	VALVE	CHK	RCRA WASTE	0/2 SSD LR STAT 1 PG
806	053858.1	CONECT	FLANGE	RCRA WASTE	G/2 SSD LR STAT 1 PG
806	054616	VALVE		RCRA WASTE	TK-19785 NWSD 1/2
806	054616.1	CONECT	FLANGE	RCRA WASTE	TK-19785 NWSD 1/2
806	054616.2	CONECT	FLANGE	RCRA WASTE	TK-19785 NWSD 1/2
806	055224	VALVE	BALL	RCRA WASTE	TK-19785 BTM 0/2
806	055224.1	CONECT	INS FLG	RCRA WASTE	TK-19785 BTM 0/2
806	055224.2	CONECT	INS FLG	RCRA WASTE	TK-19785 BTM 0/2
806	055260	VALVE	PLUG	RCRA WASTE	STA -2 SSD 0/4
806	055260.1	CONECT	THREADED	RCRA WASTE	STA -2 SSD 0/4 PG
806	055260.2	CONECT	THREADED	RCRA WASTE	STA -2 SSD 0/4
806	055260.3	CONECT	THREADED	RCRA WASTE	STA -2 SSD 0/4 PLG
806	055260.4	CONECT	INS TH	RCRA WASTE	STA -2 SSD 0/4
806	055262	VALVE	PLUG	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE
806	055262.1	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE PLG
806	055262.2	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE
806	055262.3	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE
806	055262.4	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE
806	055262.5	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE ELB
806	055262.6	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-19789 1FT SE PG
806	055263	VALVE	BALL	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE BLD
806	055263.1	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE

806	055263.2	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE
806	055263.3	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE ELB
806	055263.4	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE ELB
806	055263.5	CONECT	THREADED	RCRA WASTE	STA-2 NESD 0/3 P1-17989 1FT SE CAP
806	056978	VALVE	BALL	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD BLD
806	056978.1	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD
806	056978.2	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD
806	056978.3	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD CPL
806	056978.4	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD CPL
806	056978.5	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD ELB
806	056978.6	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD ELB
806	056978.7	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD TEE
806	056978.8	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD TEE
806	056978.9	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD TEE
806	056978.10	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD CAP
806	056978.11	CONECT	THREADED	RCRA WASTE	STA-2 NWSD 0/3 P1-19789 SSD CAP
806	055267	VALVE	PLUG	RCRA WASTE	0/2 SESD LR STAT 1
806	055267.2	CONECT	FLANGE	RCRA WASTE	0/2 SESD LR STAT 1
806	056842	VALVE	PLUG	RCRA WASTE	STA-2 NESD 0/3
806	056842.1	CONECT	INS FLG	RCRA WASTE	STA-2 NESD 0/3
806	056842.2	CONECT	INS FLG	RCRA WASTE	STA-2 NESD 0/3
806	056003	VALVE	BALL	RCRA WASTE	TK-19785 8FT S 0/2
806	056003.2	CONECT	THREADED	RCRA WASTE	TK-19785 8FT S 0/2
806	056004	VALVE	BALL	RCRA WASTE	TK-19785 8FT S 0/2 BLD
806	056004.1	CONECT	THREADED	RCRA WASTE	TK-19785 8FT S 0/2
806	056004.2	CONECT	THREADED	RCRA WASTE	TK-19785 8FT S 0/2 PLG
806	056005	VALVE	PLUG	RCRA WASTE	G/3 SESD LR STAT 1 PT-46297
806	056005.1	CONECT	THREADED	RCRA WASTE	G/3 SESD LR STAT 1 PT-46297
806	056005.2	CONECT	THREADED	RCRA WASTE	G/3 SESD LR STAT 1 PT-46297
806	056006	VALVE	BALL	RCRA WASTE	0/2 SSD LR STAT 1 HV-46298
806	056006.1	CONECT	FLANGE	RCRA WASTE	0/2 SSD LR STAT 1
806	056007	VALVE	BALL	RCRA WASTE	G/3 MID LR STAT 1 PG
806	056007.1	CONECT	THREADED	RCRA WASTE	G/3 MID LR STAT 1 PG
806	056007.2	CONECT	THREADED	RCRA WASTE	G/3 MID LR STAT 1 PG
806	056008	VALVE	BALL	RCRA WASTE	0/2 WSD LR STAT 1 SSD
806	056008.1	CONECT	INS FLG	RCRA WASTE	0/2 WSD LR STAT 1 SSD
806	056008.2	CONECT	INS FLG	RCRA WASTE	0/2 WSD LR STAT 1 SSD
806	056009	VALVE	BALL	RCRA WASTE	G/3 MID LR STAT 1 PG BLD
806	056009.1	CONECT	THREADED	RCRA WASTE	G/3 MID LR STAT 1 PG
806	056009.2	CONECT	THREADED	RCRA WASTE	G/3 MID LR STAT 1 PG
806	056831.8	CONECT	THREADED	RCRA WASTE	TK -19781 NESD 1/3 LSHH-07
806	056091	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 N
806	056091.1	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 N
806	056091.2	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 N
806	056091.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 N RED
806	056092	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 N BLD
806	056092.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 N
806	056092.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 N PLG
806	056092.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 N RED
806	056093	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 MID
806	056093.1	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 MID
806	056093.2	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 MID

806	056093.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 MID RED
806	056094	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 MID BLD
806	056094.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 MID
806	056094.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 MID PLG
806	056094.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 MID RED
806	056095	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 S
806	056095.1	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 S
806	056095.2	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT NW 0/17 S
806	056095.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 S RED
806	056096	VALVE	BALL	RCRA WASTE	TK-19784 6FT NW 0/17 S BLD
806	056096.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 S
806	056096.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 S PLG
806	056096.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT NW 0/17 S RED
806	052602.3	CONECT	FLANGE	RCRA WASTE	STA -2 SESD 0/4 S BLIND
806	055439	VALVE		RCRA WASTE	LR-STAT-1 WSD 0/6 S
806	056829	VALVE	PLUG	RCRA WASTE	TK-19786 WSD 1/3
806	056830	VALVE	PLUG	RCRA WASTE	TK-19781 WSD 1/3
806	056911	VALVE	BALL	RCRA WASTE	TK-19785 7FT E 0/1 BLD
806	056912	VALVE	BALL	RCRA WASTE	TK-19785 7FT E 0/1 BLD
806	052538.2	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7
806	052538.3	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7
806	055226.1	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7
806	055226.3	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7
806	055225.1	CONECT	FLANGE	RCRA WASTE	TK-19784 NESD 0/7
806	055225.2	CONECT	FLANGE	RCRA WASTE	TK-19784 NESD 0/7
806	055225.3	CONECT	FLANGE	RCRA WASTE	TK-19784 NESD 0/7
806	052541.1	CONECT	FLANGE	RCRA WASTE	TK-19784 BLW 0/1
806	052541.2	CONECT	FLANGE	RCRA WASTE	TK-19784 BLW 0/1
806	052541.3	CONECT	THREADED	RCRA WASTE	TK-19784 BLW 0/1
806	052541.4	CONECT	THREADED	RCRA WASTE	TK-19784 BLW 0/1
806	056720.1	CONECT	FLANGE	RCRA WASTE	TK-19784 BLW 0/3
806	056720.2	CONECT	FLANGE	RCRA WASTE	TK-19784 BLW 0/3
806	052557.1	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT W 0/1
806	052557.2	CONECT	FLANGE	RCRA WASTE	TK-19784 6FT W 0/1
806	052558.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052558.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052558.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 ELB
806	052559.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 PG
806	052559.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052559.4	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052559.5	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052559.6	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052559.7	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 NIP
806	052538.1	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7 PLG
806	055226.2	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 0/7 PLG
806	055225.4	CONECT	FLANGE	RCRA WASTE	TK-19784 NESD 0/8
806	052541.5	CONECT	THREADED	RCRA WASTE	TK-19784 BLW 0/1 CAP
806	052558.4	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 PLG
806	052559.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 PLG
806	055250.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052561.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/1
806	052561.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/1 PLG

806	052561.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/1
806	055251.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	055251.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	055251.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 ELB
806	055251.4	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 ELB
806	055251.5	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 CAP
806	052563.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052563.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 PLG
806	052564.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052564.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 PLG
806	052564.3	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2
806	052564.4	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052564.5	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052564.6	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 TEE
806	052564.7	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/2 NIP
806	052566.1	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/3
806	052566.2	CONECT	THREADED	RCRA WASTE	TK-19784 6FT W 0/3 PLG
806	057264.1	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3
806	057264.2	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3 PLG
806	057264.3	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3
806	057264.4	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3 TEE
806	057264.5	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3 TEE
806	057264.6	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3 TEE
806	057264.7	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3 NIP
806	054043.1	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/3
806	052569.1	CONECT	THREADED	RCRA WASTE	TK-19784 7FT NW 0/4 BLIND
806	052569.2	CONECT	FLANGE	RCRA WASTE	TK-19784 7FT NW 0/4
806	055252.1	CONECT	FLANGE	RCRA WASTE	TK-19784 7FT NW 0/4 CV-104
806	055252.2	CONECT	FLANGE	RCRA WASTE	TK-19784 7FT NW 0/4
806	052571.1	CONECT	FLANGE	RCRA WASTE	TK-19784 3FT NW CV-101 ESD
806	052571.2	CONECT	FLANGE	RCRA WASTE	TK-19784 3FT NW CV-101 ESD
806	052572.1	CONECT	FLANGE	RCRA WASTE	TK-19784 3FT NW CV-101 ESD
806	052572.2	CONECT	FLANGE	RCRA WASTE	TK-19784 3FT NW CV-101 ESD
806	052573.2	CONECT	FLANGE	RCRA WASTE	TK-19784 5FT NW FV-33 0/7
806	052625.1	CONECT	INS FLG	RCRA WASTE	TK-19784 15FT NW 0/3
806	054073.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP ESD 1/3
806	054073.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP ESD 1/3
806	054073.3	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP ESD 1/4
806	054073.4	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP ESD 1/4
806	056510.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	056510.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	056510.3	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	056510.4	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	055258.1	CONECT	THREADED	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	055258.2	CONECT	THREADED	RCRA WASTE	TK-19784 TOP N ESD 1/3
806	055258.3	CONECT	THREADED	RCRA WASTE	TK-19784 TOP NESD TEE 1/3
806	055258.4	CONECT	THREADED	RCRA WASTE	TK-19784 TOP NESD TEE 1/3
806	055258.5	CONECT	THREADED	RCRA WASTE	TK-19784 TOP NESD TEE 1/3
806	052820.1	CONECT	THREADED	RCRA WASTE	TK-19784 TOP NESD 1/3
806	052820.2	CONECT	THREADED	RCRA WASTE	TK-19784 TOP NESD 1/3 PLG
806	052856.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NSD 1/2
806	052832.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2

806	052832.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2
806	052833.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2
806	052833.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2
806	054055.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/1
806	055257.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2
806	055257.2	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/2
806	054053.1	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NESD 1/4
806	056836.1	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5
806	056836.2	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5
806	056836.3	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5 plg
806	056836.4	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5 ELB
806	056836.5	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5 ELB
806	055256.1	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5
806	055256.2	CONECT	THREADED	RCRA WASTE	TK-19784 NESD 1/5 PLG
806	055428.1	CONECT	INS FLG	RCRA WASTE	TK-19784 TOP NWSD 1/5
806	055428.2	CONECT	INS FLG	RCRA WASTE	TK-19784 TOP NWSD 1/5
806	055428.3	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 LT-0004
806	055428.4	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 ELB
806	055428.5	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 ELB
806	055428.6	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 TEE
806	055428.7	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 TEE
806	055428.8	CONECT	FLANGE	RCRA WASTE	TK-19784 TOP NWSD 1/5 TEE
806	055428.9	CONECT	THREADED	RCRA WASTE	TK-19784 TOP SWSD 1/5 BLIND
806	055428.10	CONECT	THREADED	RCRA WASTE	TK-19784 MID 1/5 BLIND

FORM EQP 5111 ATTACHMENT TEMPLATE C11 - SUBPART CC
AIR EMISSIONS FROM TANKS, CONTAINERS, AND SURFACE IMPOUNDMENTS

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

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 299.9634; and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subpart CC, and 40 CFR §270.27, establish requirements for controlling organic air emissions from tanks, containers, and surface impoundments. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses air emission control requirements for tanks, containers, and surface impoundments at the hazardous waste management facility for the Dow Silicones Corporation located in Midland, Michigan.

(Check as Appropriate)

☒ Applicant for Operating License for Existing Facility

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

☒ Tanks, Containers, or Surface Impoundments Subject to 40 CFR Part 264, Subpart CC (R 299.9634)

☐ No Tanks, Containers, or Surface Impoundments Subject to 40 CFR Part 264, Subpart CC, Exist at the Facility (R 299.9634)

This template is organized as follows:

- C11.C.1(c) Average VO Concentration Determination Via Direct Measurement at the Point of Waste Treatment
  - C11.C.1(c)(1) Identification of Point of Waste Origination
  - C11.C.1(c)(2) Sampling Parameters
  - C11.C.1(c)(3) Analytical Results
  - C11.C.1(c)(4) Calculation of Average VO Concentration
- C11.C.1(d) Maximum Organic Vapor Pressure Determination of Hazardous Waste in a Tank Using Level 1 Controls Via Direct Measurement
  - C11.C.1(d)(1) Sampling Parameters
  - C11.C.1(d)(2) Analytical Results
- C11.C.1(e) Maximum Organic Vapor Pressure Determination of Hazardous Waste in a Tank Using Level 1 Controls Via Process Knowledge
- C11.C.1(f) Description of Procedures for Determining No Detectable Organic Emissions

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C11.C.6(d)(1) Performance Certification
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C11.C.6(d)(3) Performance Test Plan and Results
C11.C.6(d)(4) Descriptions of Sensors, Modifications, and Locations
C11.C.6(d)(5) Planned Routine Maintenance Schedules
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C11.C.6(d)(7) Management of Carbon Removed from a Carbon Absorption System
C11.C.6(e) Records Required for Exempt Units
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C11.C.6(f) Description of Covers Designated as Unsafe to Inspect and Monitor
C11.C.6(g) Documentation of Alternative Compliance with 40 CFR Part 60, Subpart VV, or 40 CFR Part 61, Subpart V
C11.C.6(h) Documentation Required for Tanks and Containers Not Using Air Emission Controls
C11.C.6(h)(1) List of Organic Peroxide Compounds
C11.C.6(h)(2) Management of Organic Peroxide Compounds
C11.C.6(h)(3) Justification for Claiming that Air Emission Controls Would Create an Undue Safety Hazard
C11.C.6(i) Certifications and Identification of Clean Air Act Requirements

C11.C AIR EMISSIONS FROM TANKS, CONTAINERS, AND SURFACE IMPOUNDMENTS

[R 299.9634 and 40 CFR Part 264, Subpart CC]

☒ Tanks

☒ Containers

☐ Surface Impoundments

This facility does not include any hazardous waste treatment storage or disposal units exempt from RCRA Subpart CC requirements except for containers with design capacities less than or equal to 0.1 cubic meters (m^3)(26.4 gallons).

C11.C.1 Waste Streams
[R 299.9634 and 40 CFR §264.1082(c)]

The identification and origin of the waste streams for each of the six 10,000-gallon storage tanks in 806 tank farm and in various portable containers in Building 809 are attached to this module.

C11.C.1(a) Average VO Concentration Determination Via Direct Measurement at the Point of Waste Origination
[R 299.9634 and 40 CFR §264.1083]

No exemption is claimed.

C11.C.1(a)(1) Identification of Point of Waste Origination
[R 299.9634 and 40 CFR §§264.1082 and 270.27(a)(7)]

C11.C.1(a)(2) Sampling Parameters
[R 299.9634 and 40 CFR §264.1083(a)(2)]

C11.C.1(a)(3) Analytical Results
[R 299.9634 and 40 CFR §264.1083(a)(2)]

C11.C.1(a)(4) Calculation of Average VO Concentration
[R 299.9634 and 40 CFR §264.1083(a)]

C11.C.1(b) Average VO Concentration Determination Via Process Knowledge at the Point of Waste Origination
[R 299.9634 and 40 CFR §264.1083(a)(2)]

C11.C.1(c) Average VO Concentration Determination Via Direct Measurement at the Point of Waste Treatment
[R 299.9634 and 40 CFR §264.1083(b)]

There is no waste treatment at the facility thus this exemption does not apply.

C11.C.1(c)(1) Identification of Point of Waste Origination
[R 299.9634 and 40 CFR §264.1083(b)]

C11.C.1(c)(2) Sampling Parameters
[R 299.9634 and 40 CFR §264.1083(b)]

C11.C.1(c)(3) Analytical Results
[R 299.9634 and 40 CFR §264.1083(b)]

C11.C.1(c)(4) Calculation of Average VO Concentration
[R 299.9634 and 40 CFR §264.1083(b)]

C11.C.1(d) Maximum Organic Vapor Pressure Determination of Hazardous Waste in a Tank Using Level 1 Controls Via Direct Measurement
[R 299.9634 and 40 CFR §264.1083(c)]

Dow Silicones uses process knowledge to determine the applicability of Level 1 controls. Each of the six storage tanks is less than 75 m^3 in design capacity and does not store hazardous waste with a vapor pressure more than 76.6 kPa (11.1 psia). See C11.C.1(e) for details. Therefore, C11.C.1(d)(1) to C11.C.1(d)(2) does not apply.

C11.C.1(d)(1) Sampling Parameters
[R 299.9634 and 40 CFR §264.1083(c)]

C11.C.1(d)(2) Analytical Results
[R 299.9634 and 40 CFR §264.1083(c)]

C11.C.1(e) Maximum Organic Vapor Pressure Determination of Hazardous Waste in a Tank Using Level 1 Controls Via Process Knowledge
[R 299.9634 and 40 CFR §264.1083(c)]

Each of the six storage tanks is less than 75 m3 in design capacity and does not store hazardous waste with a vapor pressure more than 76.6 kPa (11.1 psia). Process knowledge is applied by determining a worst-case material composition for each waste stream and calculating the overall vapor pressure at 86 °F by summing the partial pressures of the individual volatile organic compounds contain in the stream. A determination of worst-case material partial pressures is attached (refer to Appendix C11 CC-1) to this module.

C11.C.1(f) Description of Procedures for Determining No Detectable Organic Compound Emissions
[R 299.9634 and 40 CFR §§264.1083(d) and 270.27(a)(6)]

Each fixed roof tank contains a pressure relief vent [see Section C.11.C.6(a)(1)]. In accordance with USEPA Reference Test Method 21, each vent is monitored daily using a hand-held photo ionization (PID) detector. See drawings for Module C.2.

C11.C.2 Tanks Description
[R 299.9634 and 40 CFR §270.27(a)(1) and (3)]

Each of the six tanks (which are identical) has a design capacity of 10,000 gallons, as determined by an inside tank diameter of 11 feet, a tank height of about 19.5 feet, a wall thickness of one inch, and a headspace allowance for the nitrogen blanket. See drawings for Module C.2.

C11.C.2(a) Description of Level 1 Controls
[R 299.9634 and 40 CFR §264.1084(c)]

Each tank is approximately 40 m^3 in volume and is therefore subject to a maximum organic vapor pressure limit of 76.6 kPa (11.1 psi). Each tank has a fixed roof which is designed with no direct vents to the atmosphere. While each fixed roof does contain hatches, ports, and piping connections, they are kept securely closed in normal operation except to sample or inspect the contents of the tank, to remove sludge from the tank, or to perform routine inspection and maintenance of the tank and its equipment. Furthermore, a nitrogen blanket is used as a barrier between the stored waste and the roof of the tank. Further details are provided in Section C.11.C.6(a)(1).

C11.C.2(a)(1) Maximum Organic Vapor Pressure Limit Design Capacity
[R 299.9634 and 40 CFR §264.1084(b)]

Please refer to the discussion under Section C.11.C.1(e).

C11.C.2(a)(2) Description of Fixed Roof
[R 299.9634 and 40 CFR §264.1084(c)(2)]

Please refer to the discussion under Section C.11.C.2(a). As demonstrated in Section C.11.C.2(a), the fixed roofs for each of the six identical tanks (T001 – T006), are designed to ensure there are no openings by which hazardous waste can escape to the atmosphere.

C11.C.2(a)(3) Description of Closure Devices and Operating Procedures
[R 299.9634 and 40 CFR §264.1084(c)(3)]

Each fixed roof is designed with no direct vents to the atmosphere. While each fixed roof does contain hatches, ports, and piping connections, they are kept securely closed in normal operation except to sample or inspect the contents of the tank, to remove sludge from the tank, or to perform routine inspection and maintenance of the tank and its equipment.

C11.C.2(a)(4) Description of Inspection Procedures
[R 299.9634 and 40 CFR §264.1084(c)(4)]

The inspection procedures for the tanks are detailed in Module A5.

C11.C.2(b) Description of Level 2 Controls
[R 299.9634 and 40 CFR §264.1084(d)]

Level 2 controls are not applicable for the Dow Silicones Facility.

C11.C.2(b)(1) Fixed Roof and Internal Floating Roof
[R 299.9634 and 40 CFR §264.1084(e)]

C11.C.2(b)(2) External Floating Roof
[R 299.9634 and 40 CFR §264.1084(f)]

C11.C.2(b)(3) Tank Vented to Closed-vent System
[R 299.9634 and 40 CFR §264.1084(g)]

C11.C.2(b)(4) Pressure Tank
[R 299.9634 and 40 CFR §264.1084(h)]

C11.C.2(b)(5) Tank Located Within an Enclosure Vented to a Combustion Device
[R 299.9634 and 40 CFR §264.1084(i)]

C11.C.3 Surface Impoundment Description
[R 299.9634 and 40 CFR §264.1085]

No surface Impoundments at the Dow Silicones Facility

C11.C.3(a)(1) Description of Floating Membrane Cover
[R 299.9634 and 40 CFR §§264.1085(c) and 270.27(a)(4)]

C11.C.3(a)(2) Description of Cover Vented through a Closed-Vent System
[R 299.9634 and 40 CFR §264.1085(d)]

C11.C.4 Container Descriptions
[R 299.9634 and 40 CFR §§264.1086, and 270.27(a)(2)]

Some of the containers stored in the Container Storage areas are subject to RCRA Subpart CC air emission standards. Container compliance methods with RCRA Subpart CC depend on the container and its contents.

C11.C.4(a) Description of Container Level 1 Controls
[R 299.9634 and 40 CFR §264.1086(b) and (c)]

- A container meeting the applicable DOT regulations on packaging hazardous materials for transportation.
- A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container or an integral part of the container.

C11.C.4(a)(1) Michigan Department of Transportation Specifications
[R 299.9634 and 40 CFR §264.1086(c)(1)]

C11.C.4(a)(2) Cover and Closure Devices
[R 299.9634 and 40 CFR §264.1086(c)]

C11.C.4(a)(3) Open-Top Containers with Organic Vapor-Suppressing Barrier
[R 299.9634 and 40 CFR §264.1086(c)]

C11.C.4(a)(4) Inspection Procedures
[R 299.9634 and 40 CFR §264.1086(c)(4)]

See Module A5, Inspection Schedules on inspection procedures for containers. Dow Silicones inspects each container when received. Containers are not kept on-site for more than twelve months. Therefore, the requirement to inspect every 12 months thereafter does not apply.

C11.C.4(b) Description of Container Level 2 Controls
[R 299.9634 and 40 CFR §264.1086(d)]

- A container meeting the applicable DOT regulations on packaging hazardous materials for transportation.

C11.C.4(b)(1) Michigan Department of Transportation Specifications
[R 299.9634 and 40 CFR §264.1086(d)(1)]

C11.C.4(b)(2) Container Operating with No Detectable Emissions
[R 299.9634 and 40 CFR §264.1086(d)(1)]

C11.C.4(b)(3) Containers Demonstrated to be Vapor-Tight
[R 299.9634 and 40 CFR §264.1086(d)(1)]

C11.C.4(b)(4) Container Waste Transfer Procedures
[R 299.9634 and 40 CFR §264.1086(d)(2)]

Vapor balancing occurs during transfer operations to and from the Level 2 containers and the Level 1 tanks in the 806 tank farm.

C11.C.4(b)(5) Cover and Closure Management Procedures
[R 299.9634 and 40 CFR §264.1086(d)(3)]

C11.C.4(b)(6) Inspection Procedures
[R 299.9634 and 40 CFR §264.1086(d)(4)]
See Module A5

C11.C.4(c) Description of Container Level 3 Controls
[R 299.9634 and 40 CFR §264.1086(e)]

There is no waste stabilization or Level 3 containers at the Dow Silicones facility.

C11.C.4(c)(1) Closed-Vent System Vented to a Control Device
[R 299.9634 and 40 CFR §264.1086(e)(1)(i) and (2)(ii)]

C11.C.4(c)(2) Container Vented to an Enclosure That Is Vented to a Control Device
[R 299.9634 and 40 CFR §264.1086(e)(1)(ii) and (2)(i)]

C11.C.4(c)(3) Safety Devices
[R 299.9634 and 40 CFR §264.1086(e)(3)]

C11.C.4(c) 4) Inspection and Monitoring Procedures
[R 299.9634 and 40 CFR §264.1086(e)(4)]

C11.C.4(c)(5) Records Management
[R 299.9634 and 40 CFR §264.1086(e)(5)]

C11.C.4(c)(6) Waste Transfer Procedures
[R 299.9634 and 40 CFR §264.1086(e)(2)]

C11.C.5 Description of Closed-Vent Systems and Control Devices
[R 299.9634 and 40 CFR §§264.1087 and 270.27(a)(5)]

There are no closed vent systems or control devices at the facility.

C11.C.5(a)(1) Description of Closed-Vent System
[R 299.9634 and 40 CFR §264.1087(b)]

C11.C.5(a)(2) Description of Control Devices
[R 299.9634 and 40 CFR §264.1087(c)]

C11.C.5(a)(3) Inspection Procedures
[R 299.9634 and 40 CFR §264.1087(b)(4) and (c)(7)]

C11.C.6 Description of Record Keeping Procedures
[R 299.9634 and 40 CFR §264.1089(a)]

C11.C.6(a) Description of Tank Record Keeping Procedures
[R 299.9634 and 40 CFR §264.1089(b)]

The following records are maintained at the facility.

Record Information	Retention Period	Reference
Air emission control equipment design documentation	Until equipment is replaced or removed from service	40 CFR 264.1089(a)
Tank identification numbers	Until equipment is replaced or removed from service or 3 years, whichever is greater	40 CFR 264.1089(b)
Tank inspection logs	3 years	40 CFR 264.1089(B)(1)(ii)
Records of each determination of vapor pressure of wastes stored in Level 1 tanks	3 years or until superseded, whichever is greater	40 CFR 264.1089(b)(2)(i)
Waste determinations documenting exemption from Subpart CC requirements based on organic concentration	3 years or until superseded, whichever is greater	40 CFR 264.1089(f)(1)

C11.C.6(a)(1) Tank Identification Numbers
[R 299.9634 and 40 CFR §264.1089(b)(1)(i)]
See Module C2

C11.C.6(a)(2) Inspection Records
[R 299.9634 and 40 CFR §264.1089(b)(1)(ii)]

The six hazardous waste storage tanks at this facility were subjected to an initial inspection prior to their installation, to ensure that there were no cracks, gaps, leaks, or damaged seals, and that all closure devices and relief vents operated properly. The waste storage tanks are inspected daily whenever they contain hazardous wastes, as described in Module A5, Inspection Schedules.

All six hazardous waste storage tanks are of fixed roof design with nitrogen blanketing. There are no tanks of floating roof design at the Dow Silicones facility.

C11.C.6(a)(3) Documentation for Determination of Maximum Organic Vapor Pressure for Fixed Roof Level 1 Controls
[R 299.9634 and 40 CFR §264.1089(b)(2)(i)]

The six hazardous waste storage tanks at the 806 tank farm all have design capacities of 10,000 gallons and are used to contain liquids with a maximum vapor pressure less than 76.6 kPa (574.6 mm of Hg, or 11.1 psig). These tanks are not used to heat the wastes, are not used to treat the wastes in a stabilization process, and are therefore subject to Level 1 controls. A new determination of the maximum vapor pressure of the waste is made whenever there is a change in the waste composition which could cause the maximum organic vapor pressure of the waste to exceed 76.6 kPa.

C11.C.6(a)(4)2 Documentation Showing Internal Floating Roof Design
[R 299.9634 and 40 CFR §264.1089(b)(2)(ii)]

C11.C.6(a)(5) Documentation Showing External Floating Roof Design and Seal Inspections
[R 299.9634 and 40 CFR §264.1089(b)(2)(iii)]

C11.C.6(a)(6) Calculations and Records for Demonstrating Compliance with Enclosure Requirements for Level 2 Controls
[R 299.9634 and 40 CFR §264.1089(b)(2)(iv)]

Level 2 controls are not applicable for the tanks at the Dow Silicones facility

C11.C.6(b) Description of Surface Impoundment Record Keeping Procedures
[R 299.9634 and 40 CFR §264.1089(c)]

There are no surface impoundments at the Dow Silicones Facility

C11.C.6(b)(1) Surface Impoundment Identification Numbers
[R 299.9634 and 40 CFR §264.1089(c)(1)]

C11.C.6(b)(2) Floating Membrane or Cover Certifications
[R 299.9634 and 40 CFR §264.1089(c)(2)]

C11.C.6(b)(3) Inspection Records
[R 299.9634 and 40 CFR §264.1089(c)(3)]

C11.C.6(b)(4) Closed-Vent System and Control Device Certifications and Records
[R 299.9634 and 40 CFR §264.1089(c)(4)]

C11.C.6(c) Description of Container Level 3 Control Record Keeping Procedures
[R 299.9634 and 40 CFR §264.1089(d)]

There are no level 3 applicable containers at the Dow Silicones Facility.

C11.C.6(c)(1) Calculations Verifying Compliance with Enclosure Requirements
[R 299.9634 and 40 CFR §264.1089(d)(1)]

C11.C.6(c)(2) Closed-Vent System and Control Device Certifications and Records
[R 299.9634 and 40 CFR §264.1089(d)(2)]

C11.C.6(d) Closed-Vent System and Control Device Records
[R 299.9634 and 40 CFR §264.1089(e)]

There is no closed vent system or control device at the Dow Silicones Facility.

C11.C.6(d)(1) Performance Certification
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)]

C11.C.6(d)(2) Design Analysis Documentation
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(ii)]

C11.C.6(d)(3) Performance Test Plan and Results
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(iii)]

C11.C.6(d)(4) Descriptions of Sensors, Modifications, and Locations
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(iv)]

C11.C.6(d)(5) Planned Routine Maintenance Schedules
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(v)]

C11.C.6(d)(6) Descriptions of Unplanned Malfunctions
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(vi)]

C11.C.6(d)(7) Management of Carbon Removed from a Carbon Absorption System
[R 299.9634 and 40 CFR §264.1089(e)(1)(i)(vii)]

C11.C.6(e) Records Required for Exempt Units
[R 299.9634 and 40 CFR §264.1089(f)]

This facility does not include any hazardous waste treatment storage or disposal units exempt from RCRA Subpart CC requirements except for containers with design capacities less than or equal to 0.1 m^3 (26.4 gallons). Therefore this section is not applicable for the Dow Silicones facility.

C11.C.6(e)(1) Waste Determination Results
[R 299.9634 and 40 CFR §264.1089(f)(1)]

C11.C.6(e)(2) Identification Numbers of Treatment Units
[R 299.9634 and 40 CFR §264.1089(f)(2)]

C11.C.6(f) Description of Covers Designated as Unsafe to Inspect and Monitor

[R 299.9634 and 40 CFR §264.1089(g)]

Dow Silicones is not designating any covers as unsafe to inspect and monitor. Therefore, this section does not apply.

C11.C.6(g) Documentation of Alternative Compliance with 40 CFR Part 60, Subpart VV, or 40 CFR Part 61, Subpart V

[R 299.9634 and 40 CFR §264.1089(h)]

Dow Silicones is not proposing any alternative compliance procedures for either of these regulations. Therefore, this section does not apply.

C11.C.6(h) Documentation Required for Tanks and Containers Not Using Air Emission Controls

[R 299.9634 and 40 CFR §264.1089(i)]

The six storage tanks employ Level 1 air emission controls as described in C11.C.2(a). All subject containers employ Level 1 air emission control as described in C.11.C.4(a). Therefore, this section does not apply.

C11.C.6(h)(1) List of Organic Peroxide Compounds

[R 299.9634 and 40 CFR §264.1089(i)(1)]

C11.C.6(h)(2) Management of Organic Peroxide Compounds

[R 299.9634 and 40 CFR §264.1089(i)(2)]

C11.C.6(h)(3) Justification for Claiming that Air Emission Controls Would Create an Undue Safety Hazard

[R 299.9634 and 40 CFR §264.1089(i)(3)]

C11.C.6(i) Certifications and Identification of Federal Clean Air Act of 1990 Requirements

[R 299.9634 and 40 CFR §264.1089(j)(1) and (2)]

This section does not apply. See discussion above under C11.C.6(h).

Appendix C11 CC-1
Dow Corning Corporation, Midland, Michigan
Part 111 Hazardous Waste Operating License
EPA ID No. MID 000 809632
Hazardous Waste Stream Worst Case Analysis
Summary

800 Block Tanks

Tank #	Tank Capacity Gals.	Worst Case VOC VAP pressure PSIa at 86 F annual avg temp.	Waste Profile Stored	Meet RCRA Level 1 Control Req.
19781	10,600	9.7	Q8-6017	Yes
19782	10,600	9.7	Q8-6017	Yes
19783	10,600	9.7	Q8-6017	Yes
19784	10,600	8.8	Q8-6062	Yes
19785	10,600	1.1	Q8-6026	Yes
19786	10,600	9.7	Q8-6017	Yes

9.7 PSIa is worst case VOC mixture pressure for Q8-6017
8.8 PSIa is worst case assuming Q8-6062 is all Cyclopentene
1.1 PSIa is worst case assuming Q8-6026 is all Isopropanol

RCRA Subaprt CC
Level One Control Requirements
Applicable to Tanks less than 20,000 gal Capacity Containing Liquids with total vapor pressure equal or below 11.1 PSI

Appendix C11 CC-1
Dow Corning Corporation, Midland, Michigan
Part 111 Hazardous Waste Operating License
EPA ID No. MID 000 809632
Hazardous Waste Stream Worst Case Analysis
Waste Stream Q8-6017

	Pure Component Vapor Pressure at 86 F PSI	Worst Case Mixture Based on PDM Q8-6017 Weight %	M.W.	Mole Frac.	at 86 F Partial Pressure in Vapor Phase of Tank PSIa		Pure Component Vapor Pressure at 47 F PSI	at 47 F Partial Pressure in Vapor Phase of Tank PSIa	
0000074873 N M 0.00 @ * Methyl Chloride	95.72	0	50.49	0	0		49.85	0	
0000075003 N M 5.00 @ Ethyl Chloride	27.42	5	64.51	0.077502	2.125117		12.62	0.978081	
0000060297 N M 10.00 Ethyl Ether	12.5	10	74.12	0.134913	1.686418		5.26	0.709645	
0000067641 N M 0.00 Acetone	5.504	0	58.08	0	0		1.731	0	
0000096140 N M 5.00 3-Methylpentane	4.49	5	86.18	0.058021	0.260515		1.35	0.078329	
0000110543 N M 40.00 * Hexane	3.65	40	86.18	0.464145	1.694129		1.35	0.626595	
0000067561 N M 50.00 * Methanol	3.16	40	32.04	1.248365	3.944835		0.96	1.198431	
0000110827 N M 5.00 Cyclohexane	2.35				9.711013	Sum of Partial Pressures		3.59108	Sum of Partial Pressures
0000071432 N M 1.00 @ # Benzene	2.3								
0000078933 N M 5.00 Methyl Ethyl Ketone	2.24								
0000064175 N M 10.00 * Ethanol	1.5								
0000067630 N M 20.00 * Isopropanol	1.18								
0000142825 N M 30.00 Heptane	1.13								
0000107460 N M 20.00 Hexamethyldisiloxane	1.04								
0000108883 N M 60.00 @ * Toluene	0.71								
0007732185 N M 40.00 Water	0.62								
0001066406 N M 5.00 Trimethylsilanol	0.472								
0000999973 N M 1.00 Hexamethyldisilazane	0.352								
0000681845 N M 1.00 @ Tetramethoxysilane	0.348								
Ethylbenzene	0.245								
0002627954 N M 2.00 Tetramethyldivinyldisiloxane	0.242								
P-Xylene	0.23								
0001330207 N M 80.00 * M-Xylene	0.22								
O-Xylene	0.17								
0000107517 N M 5.00 Octamethyltrisiloxane	0.102								
0007691023 N M 1.00 Tetramethyldivinyldisilazane	0.0667								
0003901777 N M 10.00 Trimethyltrivinylcyclotrisiloxane	0.017								
0017865326 N M 4.00 * Cyclohexylmethyldimethoxysila	0.0145								
DUM000181 N M 5.00 Dimethylcyclosiloxanes (CARN 6	0.00145								
0000541026 N M 11.00 Decamethylcyclopentasiloxane	0.00145								
0000541059 N M 15.00 * Hexamethylcyclotrisiloxane	0.0001								
0001185553 N M 15.00 Methyltrimethoxysilane	0.0001								
0070131678 N M 15.00 Dimethyl Siloxane, Hydroxy-terr	0.0001								
0064741884 N M 20.00 Paraffinic Distillate Heavy Solve	0.0001								
		100 %							

Appendix C11 CC-1
Dow Corning Corporation, Midland, Michigan
Part 111 Hazardous Waste Operating License
EPA ID No. MID 000 809632

Hazardous Waste Stream Worst Case Analysis
Waste Stream Q8-6062

	M.W.	Pure component Vapor Pressure at 86 F Psia	at 47F Psia	
UDRS001 is Vinyl Cyclohexene Monoxide	280.45	NA		
UDRS002 is Tetramethoxysilane	152.22	0.348		
UDRS003 is Dimethylcyclosiloxanes (CARN 69430246), D6 or greater	NON VOC	NON VOC		
UDRS004 is Decamethylcyclopentasiloxane	NON VOC	NON VOC		
UDRS005 is Octamethylcyclotetrasiloxane	NON VOC	NON VOC		
UDRS006 is Cyclopentane	70.13	7.44		
UDRS007 is Cyclopentene	68.117	8.8	3.6	Highest Vapor Pressure component
UDRS008 is Xylene-M	106.18	0.22		
O-Xylene	106.18	0.17		
P-Xylene	106.18	0.23		
Ethylbenzene	106.18	0.245		
UDRS009 is Methylethylketoxime	87.12	0.042		
UDRS010 is Toluene	92.14	0.71		
UDRS011 is Isopropanol	60.1	1.18		
UDRS012 is n-Butanol	74.12	0.1856		
UDRS013is Ethanol	46.07	1.5		
UDRS014 is Methanol	32.04	3.16		
UDRS015 is Waste Alkoxysilanes	NA	NA		
UDRS016 is allyl glycidyl ether	114.14	0.826		
UDRS017 is 1-Propenylglycidyl Ether	NA	NA		
UDRS018 is Benzene	78.11	2.3		
UDRS019 is Dimethylmethylphosphonate	124.08	NA		

***Note: Fully mehtylated siloxanes are not considered VOCs**
*** NA means not available in Phyprops under the above name**

Appendix C11 CC-1
Dow Corning Corporation, Midland, Michigan
Part 111 Hazardous Waste Operating License
EPA ID No. MID 000 809632
Hazardous Waste Stream Worst Case Analysis
Waste Stream Q8-6026

	M.W.	Pure component Vapor Pressure at 86 F Psia	at 47F Psia	
DUM000988 N M 0.10 Waste Hydrogen-containing Silanes and Silicones		NA	NA	
0007732185 N M 0.10 Water		NA	NA	
DUM000989 N M 50.00 Waste Silicone Glycols		NA	NA	
0000067630 N M 55.00 * Isopropanol	60.10	1.145	0.275	Highest Vapor Pressure component
0069430406 N M 20.00 Dimethyl, Methyl(propyl(poly(PO))methyl) Siloxane, T		NA	NA	
rimethylsiloxy-terminated		NA	NA	
0009082002 N M 20.00 Poly((EO)(PO)) Glycerol Ether		NA	NA	
0000108883 N M 0.50 @ * Toluene	92.14	0.71		