

**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 Michigan Operations** 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 Michigan Operations 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
- C11.B.3 Equipment with No Detectable Emissions
  - C11.B.3(a) Identification Numbers
  - C11.B.3(b) Monitoring Procedures
  - C11.B.3(c) Comparison to Background
  - C11.B.3(d) Pump Standards

- C11.B.3(e) Compressor Standards
- C11.B.3(f) Valve Standards
- C11.B.4 Closed-Vent Systems and Control Equipment
  - C11.B.4(a) Condenser
    - C11.B.4(a)(1) Identification Numbers
    - C11.B.4(a)(2) Applicable Standards
    - 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)]

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

- C11.B.1(a)(2) Analytical Results**  
[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]
- C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge**  
[R 299.9631 and 40 CFR §264.1063(d)(3)]
- C11.B.1(c) Date and Frequency of Determination**  
[R 299.9631 and 40 CFR §264.1063(d)]
- C11.B.1(d) Light or Heavy Liquid Designation**  
[R 299.9631 and 40 CFR §264.1063(h)]
- C11.B.2 Equipment Identification**  
[R 299.9631 and 40 CFR §§264.1050 and 270.25(a)]
- C11.B.3 Equipment with No Detectable Emissions**  
[R 299.9631 and 40 CFR §264.1064(g)(2)]
- C11.B.3(a) Identification Numbers**  
[R 299.9631 and 40 CFR §264.1064(g)(1)]
- C11.B.3(b) Monitoring Procedures**  
[R 299.9631 and 40 CFR §264.1063]
- C11.B.3(c) Comparison to Background**  
[R 299.9631 and 40 CFR §264.1063(c)(2)]
- C11.B.3(d) Pump Standards**  
[R 299.9631 and 40 CFR §§264.1052 and 264.1058]
- C11.B.3(e) Compressor Standards**  
[R 299.9631 and 40 CFR §264.1053]
- C11.B.3(f) Valve Standards**  
[R 299.9631 and 40 CFR §264.1057 and 264.1058]
- C11.B.4 Closed-Vent Systems and Control Equipment**  
[R 299.9631 and 40 CFR §264.1060]
- 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)]
- C11.B.6 Compressors**  
[R 299.9631 and 40 CFR §270.25(d)]
- C11.B.7 Pressure Relief Devices in Gas or Vapor Service**  
[R 299.9631 and 40 CFR §270.25(d)]
- C11.B.8 Sampling Connection Systems**  
[R 299.9631 and 40 CFR §270.25(d)]
- C11.B.9 Open-ended Valves or Lines**  
[R 299.9631 and 40 CFR §270.25(d)]
- C11.B.10 Valves in Gas/Vapor Service or in Light Liquid Service**  
[R 299.9631 and 40 CFR §270.25(d)]
- 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)]
- C11.B.12 Certification Statements**  
[R 299.9631 and 40 CFR §270.25(e)(4) and (5)]
- Compliance with the certification statements is achieved through the Michigan Operations Renewable Operating Permit (ROP), State Registration Number (SRN): A4033.
- C11.B.13 Documentation of Compliance with the Relevant Provisions of the Regulations at 40 CFR Part 60, Part 61, or Part 63 Rather than 40 CFR Part 264, Subpart BB**  
[R 299.9631 and 40 CFR §§264.1064(m) and 40 CFR 270.25(d)]

The following table is a summary of the component types and approximate numbers of equipment for which the 32 Incinerator Complex has elected to document

compliance with the regulations at 40 CFR, Part 60, Part 61, or Part 63 rather than 40 CFR, Part 264, Subpart BB. The compliance information for the 32 Incinerator Complex's leak detection and repair program will be maintained on file by Dow at the Midland facility and made available for inspection upon request.

Component Type	Approximate Number
Agitators	1
Flanges and Other Connectors	1390
Pumps	11
Pressure-Relief Devices	2
Valves	473

Dow complies with the Michigan Operations ROP, SRN: A4033. The following excerpt was copied from the latest revision of the Michigan Operations ROP, SRN: A4033.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))
EU32INCINERATOR-S1	<p>32 rotary kiln hazardous waste incinerator including kiln, secondary combustion chamber and the air pollution control system.</p> <p>This emission unit is subject to the requirements of 40 CFR 63, Subparts A and DD. In addition, by virtue of being subject to Subpart DD, EU32INCINERATOR-S1 is also subject to the equipment leak provisions of the HON (i.e., 40 CFR 63, Subpart H).</p> <p>This emission unit is subject to the requirements of 40 CFR 61, Subparts A and E and; 40 CFR 63, Subparts A and EEE. It is an existing source under the provisions of the 40 CFR Part 63, Subpart EEE, replacement standard.</p>
EUB7-S1	<p>Incineration complex tank farm in the environmental operations plant. Emission group consists of 10 tanks (described below) and a carbon adsorption unit for backup control.</p> <p>Emissions accounted for in this permit include those emissions from the Carbon bed and tank nos. V-101 and V-601.</p> <p>Tank V-301, V-302, V-303, V-401, V-402, V-403 &amp; V-404: These tanks store liquid hazardous waste burned at the 32 incinerator. Tank emissions and truck vapor space emissions are vented through the vent header to the 32 incinerator secondary combustion chamber (SCC) or the carbon bed unit as backup control.</p> <p>Tank V-701: Although this tank can receive liquid hazardous waste, this tank is generally used to manage water from various sumps. This tank also serves as a receiving tank for the carbon bed unit accumulator. Product stored in this tank is burned at the 32 incinerator. Emissions are vented through the vent header to the 32 incinerator secondary combustion chamber (SCC) or the carbon bed unit as backup control.</p>

	<p>Tank V-101 &amp; V-601: These tanks are used to manage water from various sumps throughout the facility. Water stored in these tanks is burned at the 32 incinerator. Tanks vent to atmosphere. De minimis quantities of organics may be present in the water. There may be times for safety reasons the tanks may be used for short periods of time to manage an unforeseen spill to a dike. The material would be placed into another vessel as soon as possible.</p> <p>This emission unit is subject to the requirements of 40 CFR 63, Subparts A and DD. In addition, by virtue of being subject to Subpart DD, EUB7-S1 is also subject to the equipment leak provisions of the HON (i.e., 40 CFR 63, Subpart H).</p>
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**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 Michigan Operations** 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
- 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 AIR EMISSIONS FROM TANKS, CONTAINERS, AND SURFACE IMPOUNDMENTS**

**C11.C.1 Waste Streams**

- C11.C.1(a) Average Volatile Organic (VO) Concentration Determination Via Direct Measurement at the Point of Waste Origination
  - C11.C.1(a)(1) Identification of Point of Waste Origination
  - C11.C.1(a)(2) Sampling Parameters
  - C11.C.1(a)(3) Analytical Results
  - C11.C.1(a)(4) Calculation of Average VO Concentration
- C11.C.1(b) Average VO Concentration Determination Via Process Knowledge at the Point of Waste Origination
- 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
- C11.C.2 Tanks Description
  - C11.C.2(a) Description of Level 1 Controls
    - C11.C.2(a)(1) Maximum Organic Vapor Pressure Limit Design Capacity
    - C11.C.2(a)(2) Description of Fixed Roof
    - C11.C.2(a)(3) Description of Closure Devices and Operating Procedures
    - C11.C.2(a)(4) Description of Inspection Procedures
  - C11.C.2(b) Description of Level 2 Controls
    - C11.C.2(b)(1) Fixed Roof and Internal Floating Roof
    - C11.C.2(b)(2) External Floating Roof
    - C11.C.2(b)(3) Tank Vented to Closed-Vent System
    - C11.C.2(b)(4) Pressure Tank
    - C11.C.2(b)(5) Tank Located Within an Enclosure Vented to a Combustion Device
- C11.C.3 Surface Impoundment Description
  - C11.C.3(a) Description of Floating Membrane Cover
  - C11.C.3(b) Description of Cover Vented through a Closed-Vent System
- C11.C.4 Container Descriptions
  - C11.C.4(a) Description of Container Level 1 Controls
    - C11.C.4(a)(1) Michigan Department of Transportation Specifications
    - C11.C.4(a)(2) Cover and Closure Devices
    - C11.C.4(a)(3) Open-Top Containers with Organic Vapor-Suppressing Barrier
    - C11.C.4(a)(4) Inspection Procedures
  - C11.C.4(b) Description of Container Level 2 Controls
    - C11.C.4(b)(1) Michigan Department of Transportation Specifications
    - C11.C.4(b)(2) Container Operating with No Detectable Emissions
    - C11.C.4(b)(3) Containers Demonstrated to be Vapor-Tight
    - C11.C.4(b)(4) Container Waste Transfer Procedures
    - C11.C.4(b)(5) Cover and Closure Management Procedures
    - C11.C.4(b)(6) Inspection Procedures
  - C11.C.4(c) Description of Container Level 3 Controls
    - C11.C.4(c)(1) Closed-Vent System Vented to a Control Device
    - C11.C.4(c)(2) Container Vented to an Enclosure That Is Vented to Control Device
    - C11.C.4(c)(3) Safety Devices
    - C11.C.4(c)(4) Inspection and Monitoring Procedures
    - C11.C.4(c)(5) Records Management
    - C11.C.4(c)(6) Waste Transfer Procedures
- C11.C.5 Description of Closed-Vent Systems and Control Devices
  - C11.C.5(a) Description of Closed-Vent System
  - C11.C.5(b) Description of Control Devices
  - C11.C.5(c) Inspection Procedures
- C11.C.6 Description of Record Keeping Procedures
  - C11.C.6(a) Description of Tank Record Keeping Procedures

- C11.C.6(a)(1) Tank Identification Numbers
- C11.C.6(a)(2) Inspection Records
- C11.C.6(a)(3) Documentation for Determination of Maximum Organic Vapor Pressure for Fixed Roof Level 1 Controls
- C11.C.6(a)(4) Documentation Showing Internal Floating Roof Design
- C11.C.6(a)(5) Documentation Showing External Floating Roof Design and Seal Inspections
- C11.C.6(a)(6) Calculations and Records for Demonstrating Compliance with Enclosure Requirements for Level 2 Controls
- C11.C.6(b) Description of Surface Impoundment Record Keeping Procedures
  - C11.C.6(b)(1) Surface Impoundment Identification Numbers
  - C11.C.6(b)(2) Floating Membrane or Cover Certifications
  - C11.C.6(b)(3) Inspection Records
  - C11.C.6(b)(4) Closed-Vent System and Control Device Certifications and Records
- C11.C.6(c) Description of Container Level 3 Control Record Keeping Procedures
  - C11.C.6(c)(1) Calculations Verifying Compliance with Enclosure Requirements
  - C11.C.6(c)(2) Closed-Vent System and Control Device Certifications and Records
- C11.C.6(d) Closed-Vent System and Control Device Records
  - C11.C.6(d)(1) Performance Certification
  - C11.C.6(d)(2) Design Analysis Documentation
  - 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
  - C11.C.6(d)(6) Descriptions of Unplanned Malfunctions
  - C11.C.6(d)(7) Management of Carbon Removed from a Carbon Absorption System
- C11.C.6(e) Records Required for Exempt Units
  - C11.C.6(e)(1) Waste Determination Results
  - C11.C.6(e)(2) Identification Numbers of Treatment Units
- 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: 1163 Building, 33 Building, and the Incineration Complex Tank Farm

Containers: Container storage areas: Waste Storage Area I (WSA I), 32 Building Container Storage Area (32 Pack Room), 830 Building Container Storage Area (830 Building), Offload Spots at the Incinerator, 703 Tank Farm Spots, and Rail Car Spots

Surface Impoundments: Tertiary Pond System

**C11.C.1 Waste Streams**

[R 299.9634 and 40 CFR §264.1082(c)]

**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]

**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)]

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

See Attachment XIV.C2, Tank Systems, of this operating license reapplication for details pertaining to 1163 Building, 33 Building, and the Incineration Complex Tank Farm.

1163 Building and 33 Building are exempt from the requirements of the RCRA Subpart CC air emission standards since all hazardous waste entering these tank systems have an average VO concentration at the point of waste origination of less than 500 ppmw. [40 CFR 264.1082(c)(1)]

The requirements of the RCRA Subpart CC air emission standards do not apply to the Incineration Complex Tank Farm tanks since they are equipped with and operating air emission controls in accordance with the following Clean Air Act regulations, 40 CFR 63, Subparts A and DD. [40 CFR 264.1080(b)(7)]

- C11.C.2(a) Description of Level 1 Controls**  
[R 299.9634 and 40 CFR §264.1084(c)]
- C11.C.2(a)(1) Maximum Organic Vapor Pressure Limit Design Capacity**  
[R 299.9634 and 40 CFR §264.1084(b)]
- C11.C.2(a)(2) Description of Fixed Roof**  
[R 299.9634 and 40 CFR §264.1084(c)(2)]
- C11.C.2(a)(3) Description of Closure Devices and Operating Procedures**  
[R 299.9634 and 40 CFR §264.1084(c)(3)]
- C11.C.2(a)(4) Description of Inspection Procedures**  
[R 299.9634 and 40 CFR §264.1084(c)(4)]
- C11.C.2(b) Description of Level 2 Controls**  
[R 299.9634 and 40 CFR §264.1084(d)]
- C11.C.2(b)(1) Fixed Roof and Internal Floating Roof**

**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]

See Attachment XIV.C5, Surface Impoundments, of this operating license reapplication for details pertaining to the Tertiary Pond System.

The Tertiary Pond System is exempt from the requirements of the RCRA Subpart CC air emission standards because all hazardous waste placed in this unit meet the Land Disposal Restrictions. [40 CFR 264.1082(c)(4)(i)]

**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)]

See Attachment XIV.C1, Use and Management of Containers, of this operating license reapplication for details pertaining to the Container Storage areas.

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.

The requirements of the RCRA Subpart CC air emission standards do not apply to the containers when they are connected to the 32 rotary kiln hazardous waste incinerator because, at that point, they are equipped with and operating air emission controls in accordance with the following Clean Air Act regulations, 40 CFR 63, Subparts A, DD, and EEE and; 40 CFR 61, Subparts A and E.

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

A container using Container Level 1 controls is one of the following:

- 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)]

Inspections of the Container Storage areas are conducted to verify the general condition of each container placed in storage, as specified in the Inspection Schedule, Attachment XIV.A5 of this operating license reapplication.

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

A container using Container Level 2 Controls is one of the following:

- A container meeting the applicable DOT regulations on packaging hazardous materials for transportation (i.e., vacuum trucks, tank trucks).
- A container operating with no detectable organic emissions (see the procedure in using Method 21 of 40 CFR 60, Appendix B).
- A container that has been demonstrated within the preceding 12 months to be vapor-tight using Method 27 of 40 CFR 60, Appendix B.

**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)]

**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)]

Inspections of the Container Storage areas are conducted to verify the general condition of each container placed in storage, as specified in the Inspection Schedule, Attachment XIV.A5 of this operating license reapplication.

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

Level three containers are not currently handled but the container unloading stations are set up to send vent emissions to incineration.

**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)]

**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)]

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

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

- 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)]
- 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)]
- C11.C.6(b) Description of Surface Impoundment Record Keeping Procedures**  
[R 299.9634 and 40 CFR §264.1089(c)]
- 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)]
- 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)]
- 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)]
- 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)]
- 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)]
- C11.C.6(h) Documentation Required for Tanks and Containers Not Using Air Emission Controls**  
[R 299.9634 and 40 CFR §264.1089(i)]
- 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)]

Dow complies with the Michigan Operations Renewable Operating Permit (ROP), SRN A4033. The following excerpt was copied from the latest version of the ROP, SRN: A4033.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))
EU32INCINERATOR-S1	32 rotary kiln hazardous waste incinerator including kiln, secondary combustion chamber and the air pollution control system.  This emission unit is subject to the requirements of 40 CFR 63, Subparts A and DD. In addition, by virtue of being subject to Subpart DD, EU32INCINERATOR-S1 is also subject to the equipment leak

	<p>provisions of the HON (i.e., 40 CFR 63, Subpart H).</p> <p>This emission unit is subject to the requirements of 40 CFR 61, Subparts A and E and; 40 CFR 63, Subparts A and EEE. It is an existing source under the provisions of the 40 CFR Part 63, Subpart EEE, replacement standard.</p>
EUB7-S1	<p>Incineration complex tank farm in the environmental operations plant. Emission group consists of 10 tanks (described below) and a carbon adsorption unit for backup control.</p> <p>Emissions accounted for in this permit include those emissions from the Carbon bed and tank nos. V-101 and V-601.</p> <p>Tank V-301, V-302, V-303, V-401, V-402, V-403 &amp; V-404: These tanks store liquid hazardous waste burned at the 32 incinerator. Tank emissions and truck vapor space emissions are vented through the vent header to the 32 incinerator secondary combustion chamber (SCC) or the carbon bed unit as backup control.</p> <p>Tank V-701: Although this tank can receive liquid hazardous waste, this tank is generally used to manage water from various sumps. This tank also serves as a receiving tank for the carbon bed unit accumulator. Product stored in this tank is burned at the 32 incinerator. Emissions are vented through the vent header to the 32 incinerator secondary combustion chamber (SCC) or the carbon bed unit as backup control.</p> <p>Tank V-101 &amp; V-601: These tanks are used to manage water from various sumps throughout the facility. Water stored in these tanks is burned at the 32 incinerator. Tanks vent to atmosphere. De minimis quantities of organics may be present in the water. There may be times for safety reasons the tanks may be used for short periods of time to manage an unforeseen spill to a dike. The material would be placed into another vessel as soon as possible.</p> <p>This emission unit is subject to the requirements of 40 CFR 63, Subparts A and DD. In addition, by virtue of being subject to Subpart DD, EUB7-S1 is also subject to the equipment leak provisions of the HON (i.e., 40 CFR 63, Subpart H).</p>