

ATTACHMENT C-11

**Air Emissions from
Process Vents, Equipment Leaks,
and Storage Units**

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

This document is an attachment to the Michigan Department of Environmental Quality's (DEQ) *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 299.9630; and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subparts 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 attachment addresses air emission control requirements for process vents at the hazardous waste management facility for the *EQ Resource Recovery, Inc. (EQRR)* facility in *Romulus*, 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)

This attachment is organized as follows:

C11.A AIR EMISSIONS FROM PROCESS VENTS

- C11.A.1 Waste Streams
 - C11.A.1(a) Organic Concentration Determination Via Direct Measurement
 - C11.A.1(a)(1) Sampling Parameters
 - C11.A.1(a)(2) Analytical Results
 - C11.A.1(a)(3) Calculation of Total Organic Concentration
 - C11.A.1(b) Organic Compound Concentration Determination Via Process Knowledge
 - C11.A.1(c) Date and Frequency of Determination
- C11.A.2 Unit Description
- C11.A.3 Emission Estimates
 - C11.A.3(a) Emission Rates
 - C11.A.3(b) Emission Reductions
 - C11.A.3(c) Engineering Calculations
 - C11.A.3(d) Performance Test Plan
 - C11.A.3(d)(1) Engineering Description of Control Device and Closed-Vent System
 - C11.A.3(d)(2) Planned Timing

- C11.A.3(d)(3) Sampling and Monitoring Procedures
- C11.A.3(e) Performance Test Results
 - C11.A.3(e)(1) Description of Test Runs
 - C11.A.3(e)(2) Velocity and Volumetric Flow Rate
 - C11.A.3(e)(3) Organic Compound Content
 - C11.A.3(e)(4) Total Organic Mass Flow Rate
 - C11.A.3(e)(5) Total Organic Compound Emissions
- C11.A.4 Condenser and Closed-Vent System
 - C11.A.4(a) Applicable Standards
 - C11.A.4(b) Design
 - C11.A.4(c) Design Analysis
- C11.A.10 Certification Statements

C11.A Air Emissions from Process Vents
[R 299.9630 and 40 CFR, Part 264, Subpart AA]

- Process Vents Associated with Distillation
- Process Vents Associated with Fractionation
- Process Vents Associated with Thin-film evaporation
- Process Vents Associated with Solvent Extraction
- Process Vents Associated with Air or Steam Stripping Operations
- All Process Vents are Operated in Accordance with 40 CFR Parts 60, 61, or 63

C11.A.1 Waste Streams
[R 299.9630 and 40 CFR §264.1034(d)]

EQRR will receive used or spent solvent hazardous waste streams from off-site generators that have completed the EQRR waste characterization process. Typically these streams will be waste code D001 at minimum. See attachment A2 for the list of approved codes that could be accepted and processed at the facility.

C11.A.1(a) Organic Compound Concentration Determination Via Direct Measurement
[R 299.9630 and 40 CFR §264.1034(d)(1)]

EQRR requires the generator to complete a Waste Characterization Report for each waste to be approved into the EQRR facility. It is the generators responsibility to determine waste concentrations at the point of generation. EQRR will utilize generator knowledge and may also use analytical data provided by the generator or an analytical laboratory. Typical materials will be well in excess of 10 ppmw.

C11.A.1(a)(1) Sampling Parameters
[R 299.9630 and 40 CFR §264.1034(d)(1)(i) and (ii)]

See Attachment A3

C11.A.1(a)(2) Analytical Results
[R 299.9630 and 40 CFR §264.1034(d)(1)(iii)]

See Attachment A3

C11.A.1(a)(3) Calculation of Total Organic Compound Concentration
[R 299.9630 and 40 CFR §264.1034(d)(1)(iv)]

It is assumed in advance that the thin-film evaporation units will not be exempt from the regulation. A pollution control device will be attached to any applicable process vent to remove organic compounds.

C11.A.1(b) Organic Compound Concentration Determination Via Process Knowledge
[R 299.9630 and 40 CFR §264.1034(d)(2)]

See Attachment A3

C11.A.1(c) Date and Frequency of Determination
[R 299.9630 and 40 CFR §264.1034(e)]

See Attachment A3

C11.A.2 Unit Description
[R 299.11003 and 40 CFR §270.24(b)(1)]

Up to three thin-film evaporation units may be installed and operated at the facility. Each of these units will be connected to the closed vent control device. Actual annual throughput and operating hours are not available as the units are not operating at this time. Theoretical data may be developed as needed. The location of these units can be found on the engineering drawings located in Attachment B6.

C11.A.3 Emission Estimates
[R 299.11003 and 40 CFR §270.24(b)(1)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(a) Emission Rates
[R 299.11003 and 40 CFR §270.24(b)(2)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(b) Emission Reductions
[R 299.11003 and 40 CFR §270.24(b)(2)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(c) Engineering Calculations
[R 299.11003 and 40 CFR §270.24(b)(2)]

Final specifications of the control device have not been established yet. Closed vent pipe sizing and distances are also not firmly established. Engineering calculations will be provided to the Department prior to operation of the thin-film evaporators and the closed vent control device.

C11.A.3(d) Performance Test Plan
[R 299.9630 and 40 CFR §264.1032(c)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed. A Test Plan will be developed and submitted to the Department in accordance with the regulation.

C11.A.3(d)(1) Engineering Description of Control Device and Closed-Vent System
[R 299.9630 and 40 CFR §264.1034]

A detailed engineering description of the control device and closed vent system cannot be provided at this time as the control device and closed vent piping has not been identified. A description will be provided to the Department prior to operation of the thin-film evaporator and the closed vent control device.

C11.A.3(d)(2) Planned Timing
[R 299.9630 and 40 CFR §264.1034(c)]

There are no performance tests currently scheduled as the final equipment design is not complete. No equipment is installed.

C11.A.3(d)(3) Sampling and Monitoring Procedures
[R 299.9630 and 40 CFR §264.1034(c)]

Sampling and monitoring procedures have not been established for the closed vent control device

C11.A.3(e) Performance Test Results
[R 299.9630 and 40 CFR §264.1034(c)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed. A Test Plan will be developed and submitted to the Department in accordance with the regulation.

C11.A.3(e)(1) Description of Test Runs
[R 299.9630 and 40 CFR §264.1034(c)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(e)(2) Velocity and Volumetric Flow Rate
[R 299.9630 and 40 CFR §264.1034(c)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(e)(3) Organic Compound Content
[R 299.9630 and 40 CFR §264.1034(c)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(e)(4) Total Organic Mass Flow Rate
[R 299.9630 and 40 CFR §264.1034(c)(1)(iv)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.3(e)(5) Total Organic Compound Emissions
[R 299.9630 and 40 CFR §264.1034(c)(1)(v) and (vi)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.4 Condenser and Closed-Vent System
[R 299.9630 and 40 CFR §§264.1033 and 264.1035]

C11.A.4(a) Applicable Standards
[R 299.9630 and 40 CFR §264.1033(b)]

Test data will be provided to the Department when the thin-film evaporators, the closed vent piping, and the pollution control equipment is installed.

C11.A.4(b) Design
[R 299.9630 and 40 CFR §264.1035(b)(3)(ii)]

The final design and specification of the control device has not been determined.

C11.A.4(c) Design Analysis
[R 299.9630 and 40 CFR §264.1035(b)(4)(iii)]

The final design and specification of the control device has not been determined.

C11.A.5 Certification Statements
[R 299.9630 and 40 CFR §264.1030(e)]

Not Applicable

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

This document is an attachment to the Michigan Department of Environmental Quality's (DEQ) *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 attachment addresses air emission control requirements for equipment leaks at the hazardous waste management facility for the *EQ Resource Recovery, Inc. (EQRR)* facility in *Romulus*, Michigan.

- 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)

This attachment 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(b) Thermal Vapor Incinerator
- 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 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)]

See attachment A2 for the list of acceptable waste codes. The hazardous waste tanks identified in Attachment C2 and their respective pumps, and pipe runs are intended to be used for the recovery of used/spent solvent wastes. These solvent wastes are typically well in excess of 10% by weight organic concentration. EQRR is not seeking to exempt any of the pumps, pipe runs, or other equipment from Subpart BB requirements.

C11.B.1(a) Organic Compound Concentration Determination Via Direct Measurement

[R 299.9631 and 40 CFR §264.1063(d)(1) and (2)]

Organic concentration is assumed to be in excess of 10% by weight. Direct measurement is not required.

C11.B.1(b) Organic Compound Concentration Determination Via Process Knowledge

[R 299.9631 and 40 CFR §264.1063(d)(3)]

The hazardous waste tanks identified in Attachment C2 and their respective pumps, and pipe runs are intended to be used for the recovery of used/spent solvent wastes. These solvent wastes are typically well in excess of 10% by weight organic concentration. EQRR is not

seeking to exempt any of the pumps, pipe runs, or other equipment from Subpart BB requirements. Concentration of liquids will be obtained from Waste Characterization Reports submitted by the generator of the waste. The generator is required to evaluate these concentrations at the point of waste generation. See Attachment A3.

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

The Subpart BB determination is not anticipated to change over time based on facility activities. The generator must submit a revised WCR for each unique approval when a change occurs in the generating process or at least certify that there has been no change to the generating source at least annually.

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

Based on the likely organic compounds to be recovered at the facility, it is assumed that the designation will be "light liquid service."

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

All applicable equipment has been identified. Inspection reports containing the listing of affected equipment by unique identification numbers can be found in Attachment A5.

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

Not Applicable

C11.B.3(a) Identification Numbers
[R 299.9631 and 40 CFR §264.1064(g)(1)]

All applicable equipment has been identified. Inspection reports containing the listing of affected equipment by unique identification numbers can be found in Attachment A5.

C11.B.3(b) Monitoring Procedures
[R 299.9631 and 40 CFR §264.1063]

Each valve in light liquid service is monitored monthly to detect leaks by methods specified in 40 CFR 264.1063(b).

C11.B.3(c) Comparison to Background
[R 299.9631 and 40 CFR §264.1063(c)(2)]

Each valve in light liquid service is monitored monthly to detect leaks by methods specified in 40 CFR 264.1063(b).

C11.B.3(d) Pump Standards
[R 299.9631 and 40 CFR §§264.1052 and 264.1058]

See Attachment B6 Engineering Plans P&ID 36

C11.B.3(e) Compressor Standards
[R 299.9631 and 40 CFR §264.1053]

Not Applicable

C11.B.3(f) Valve Standards
[R 299.9631 and 40 CFR §264.1057 and 264.1058]

See Attachment B6 Engineering Plans P&ID 41 through 45

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

The closed vent system and control equipment will be reviewed for any potential Subpart BB equipment when final equipment designs and installation are completed.

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

See Attachment C11 Subpart AA

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

See Attachment C11 Subpart CC

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

There are pumps in light liquid service. The methods of compliance are weekly visual inspection and when identified a repair, and monthly leak detection and when identified a repair.

Pumps are visually inspected each calendar week for indications of liquid dripping from the pump seal. If there are visual indications of liquid dripping from the pump seal, a leak is detected.

Pumps are monitored monthly to detect leaks by methods specified in 40 CFR 264.1063(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

If a leak is detected a first attempt to repair the leak will be conducted as soon as practicable and no later than 5 calendar days after each leak is detected. The leak will be repaired no later than 15 calendar days after it is detected, except as provided in 40 CFR 264.1059.

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

Not Applicable

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

Not Applicable

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

Not Applicable

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

There are open-ended valves or lines. The method of compliance is capping and operational procedure. Each open-ended valve or line is equipped with a cap or second valve. The cap or second valve seals the opened end at all times except during operations requiring hazardous waste flow through the open ended valve or line. Each open-ended valve or line equipped with a second valve will be operated in such a manner that the valve on the hazardous waste stream end is closed before the second valve is closed.

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

There are valves in light liquid service. The method of compliance is monthly leak detection, monitoring, and repair. Each valve in light liquid service is monitored monthly to detect leaks by methods specified in 40 CFR 264.1063(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

If for two successive months a leak is not detected, then monitoring will be modified to occur only on the first month of each succeeding quarter, beginning the next quarter, until a leak is detected. After a leak is detected, the valve will return to the monthly monitoring program until no leak is detected for two successive months.

If a leak is detected, it will be repaired as soon as practicable. The first attempt will be made no later than 5 calendar days after each leak is detected, except as provided in 40 CFR 264.1059. The leak will be repaired no later than 15 calendar days after it is detected, except as provided in 40 CFR 264.1059.

After proper notification to the Michigan Department of Environmental Quality (MDEQ) Director, the facility may elect to follow alternative standards for valves in gas/vapor or in light liquid service in accordance with 40 CFR264.1061 and/or 40CFR 264.1062.

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 flanges and connectors in light liquid service. The method of compliance is quarterly inspection of flanges and connectors using visual, audible and olfactory senses or any other detection device.

If evidence of a leak is detected by visual, audible, olfactory or any other detection method, the equipment will be monitored within 5 days by the method specified in 40 CFR 264.1063(b).

If the instrument reading is greater than or equal to 10,000 ppm, then a leak is detected.

If a leak is detected, it will be repaired as soon as practicable. The first attempt will be made no later than 5 calendar days after each leak is detected, except as provided in 40 CFR 264.1059. The leak will be repaired no later than 15 calendar days after it is detected, except as provided in 40 CFR 264.1059.

After proper notification to the Michigan Department of Environmental Quality (MDEQ) Director, the facility may elect to follow alternative standards for flanges or connectors in gas/vapor or in light liquid service in accordance with 40 CFR264.1061 and/or 40CFR 264.1062.

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

Not Applicable. See Attachment A11 Subpart AA and/or CC

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

This document is an attachment to the Michigan Department of Environmental Quality's (DEQ) *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 attachment addresses air emission control requirements for tanks, containers, and surface impoundments at the hazardous waste management facility for the **EQ Resource Recovery, Inc. (EQRR)** facility in **Romulus**, 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 attachment 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(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(d) Maximum Organic Vapor Pressure Determination of Hazardous Waste in a Tank Using Level 1 Controls Via Direct Measurement
 - 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(b) Description of Level 2 Controls
 - C11.C.2(b)(1) Tank Vented to Closed-Vent System

- C11.C.3 Surface Impoundment Description
- 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.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(b) Description of Container Level 3 Control Record Keeping Procedures
 - C11.C.6(c) Closed-Vent System and Control Device Records
 - C11.C.6(c)(1) Performance Certification
 - C11.C.6(c)(2) Design Analysis Documentation
 - C11.C.6(c)(3) Performance Test Plan and Results
 - C11.C.6(c)(4) Descriptions of Sensors, Modifications, and Locations
 - C11.C.6(c)(5) Planned Routine Maintenance Schedules
 - C11.C.6(c)(6) Descriptions of Unplanned Malfunctions
 - C11.C.6(c)(7) Management of Carbon Removed from a Carbon Absorption System
 - C11.C.6(d) Records Required for Exempt Units
 - C11.C.6(d)(1) Waste Determination Results
 - C11.C.6(d)(2) Identification Numbers of Treatment Units
 - C11.C.6(e) Description of Covers Designated as Unsafe to Inspect and Monitor
 - C11.C.6(f) Documentation of Alternative Compliance with 40 CFR, Part 60, Subpart VV, or 40 CFR, Part 61, Subpart V
 - C11.C.6(g) Documentation Required for Tanks and Containers Not Using Air Emission Controls
 - C11.C.6(h) 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

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

See Attachment A2 for a complete list of potential waste codes. Information for organic concentration at the point of generation will be obtained through the waste characterization process identified in Attachment A3.

The EQRR facility is designed to recover organic solvents from used/spent waste solvents through thin-film evaporation methods. It is anticipated that received hazardous wastes to be recovered will typically be in excess of 500 ppmw. All tanks used for storage of these hazardous organic wastes will have a fixed roof and be attached to a closed vent system and will be controlled by a combustion device.

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]

By design the Waste Storage tanks identified in C2 are anticipated to be holding hazardous waste with organic concentrations well in excess of 500 ppmw. Information for organic concentration at the point of generation will be obtained through the waste characterization process identified in Attachment A3.

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)]

By design the Waste Storage tanks identified in C2 are anticipated to be holding hazardous waste with organic concentrations well in excess of 500 ppmw. Information for organic concentration at the point of generation will be obtained through the waste characterization process identified in Attachment A3.

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)]

By design the Waste Storage tanks identified in C2 are anticipated to be holding hazardous waste with organic concentrations well in excess of 500 ppmw. Information for organic concentration at the point of generation will be obtained through the waste characterization process identified in Attachment A3.

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)]

Not Applicable. Tanks will have level 2 controls.

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)]

Not Applicable. Tanks will have level 2 controls.

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

Not applicable as it is assumed materials will be greater than 500 ppmw and controls will be established.

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

See Attachment C2 and Design Plans B6

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

Not Applicable. Tanks will have level 2 controls.

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

Hazardous waste tanks will be fixed roof design with vent closures attached to a closed vent system and attached to a control device using combustion technology.

C11.C.2(b)(1) Tank Vented to Closed-vent System
[R 299.9634 and 40 CFR §264.1084(g)]

Tanks will have conservation vents and emergency relief devices that will be attached to a closed vent system. Final design of the closed vent system and control device has not been determined. Tanks will be filled and emptied through a transfer pump that is subject a to high-level cut-off. Tank inspection procedures can be found in Attachment A5.

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

Not Applicable

C11.C.4 Container Descriptions
[R 299.9634 and 40 CFR §264.1086]

See Attachment C1

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

Level 1 controls for EQRR containers apply to containers from 26 to 121 gallons in light material service with no stabilization. Containers are to remain closed unless material is being added or removed.

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

USDOT Regulation at 49 CFR are incorporated by reference

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

49CFR 173.24

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

Not Applicable

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

Hazardous waste containers not emptied within 24 hours will be visually inspected, including its cover and closure devices, to check for visible cracks, holes, gaps or other open spaces into the interior of the container. The visual inspection will be conducted on or before the date that the container is accepted at the facility. Containers which are used to manage hazardous waste, and which remain at the facility for more than one year, will be visually inspected at least once every 12 months.

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

Level 2 Controls for EQRR apply to containers greater than 121 gallons in light material service with no stabilization. Containers are to remain closed unless material is being added or removed.

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

USDOT Regulation at 49 CFR are incorporated by reference

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

Not Applicable

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

Not Applicable

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

Transfers of hazardous waste to containers with level 2 controls (totes, tankers, or railcars) will be performed through the use of a submerged-fill pipe for totes, or bottom fill for tankers and railcars.

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

Level 2 Controls for EQRR apply to containers greater than 121 gallons in light material service with no stabilization. Containers are to remain closed unless material is being added or removed.

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

Hazardous waste containers not emptied within 24 hours will be visually inspected, including its cover and closure devices, to check for visible cracks, holes, gaps or other open spaces into the interior of the container. The visual inspection will be conducted on or before the date that the container is accepted at the facility. Containers which are used to manage hazardous waste, and which remain at the facility for more than one year, will be visually inspected at least once every 12 months.

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

Not Applicable. There will be no stabilization of wastes in containers.

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

A closed vent system will connect vents from each Subpart CC Tank to a control device that uses combustion technology to achieve a 95% reduction of organic vapor.

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

A closed vent system will be used to capture vapor from fill and transfer processes of all Subpart CC tanks. Further description can be submitted when the vent system has completed final design.

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

A control device will be installed and attached to the closed vent system that utilizes combustion technology to achieve 95% by weight reduction of captured vapor from affected tanks. Further description can be submitted when the final design selection has been completed for the control device.

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

Inspection forms will be completed for the control device and closed vent system when the systems are installed. Typical inspections will be visual and will include the use of a PID type device for measurement at connection points and areas of potential leak.

Automatic sensors and secondary gages are viewed weekly to ensure that negative pressure is maintained and that there are no leaks in the system. All piping, joints and valves will be checked annually for leaks.

If a leak is detected, it will be repaired as soon as practicable. The first attempt will be made no later than 5 calendar days after each leak is detected, except as provided in 40 CFR 264.1059. The leak will be repaired no later than 15 calendar days after it is detected, except as provided in 40 CFR 264.1059.

After proper notification to the Michigan Department of Environmental Quality (MDEQ) Director, the facility may elect to follow alternative standards for valves in gas/vapor or in light liquid service in accordance with 40 CFR 264.1061 and/or 40 CFR 264.1062.

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

Design and equipment documents and certifications will be maintained in the facility operating record for at least the useable life of the equipment or until closure of the facility. Inspection records for the control device, the closed vent, and tank closure devices will be maintained in the operating record for no less than three years.

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

Design and equipment documents and certifications will be maintained in the facility operating record for at least the useable life of the equipment or until closure of the facility. Inspection records for the tanks and tank closure devices will be maintained in the operating record for no less than three years.

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

A Tank list can be found in Attachment C2 that provides a unique tank numbering scheme.

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

See Attachment A5

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)]

Not Applicable

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

Not Applicable

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

Design and equipment documents and certifications will be maintained in the facility operating record for at least the useable life of the equipment or until closure of the facility. Inspection records for the tanks and tank closure devices will be maintained in the operating record for no less than three years.

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

A signed certification in conformance with 264.1089(e)(1)(i) will be prepared when final design for the control device established.

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

Either a design analysis or a performance test will be planned and completed upon final design and installation.

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

Either a design analysis or a performance test will be planned and completed upon final design and installation.

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

This will be available upon completion of final design and equipment selection.

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

This will be incorporated into the malfunction abatement plan for the control device and closed

vent when final design and equipment installation is completed.

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

This will be incorporated into the malfunction abatement plan for the control device and closed vent when final design and equipment installation is completed.

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

Not Applicable

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

Not Applicable

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

Not Applicable

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

Not Applicable

C11.C.6(e) Description of Covers Designated as Unsafe to Inspect and Monitor
[R 299.9634 and 40 CFR §264.1089(g)]

Not Applicable

C11.C.6(f) 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)]

Not Applicable

C11.C.6(g) Documentation Required for Tanks and Containers Not Using Air Emission Controls
[R 299.9634 and 40 CFR §264.1089(i)]

Not Applicable

C11.C.6(h) Certifications and Identification of Federal Clean Air Act of 1990 Requirements
[R 299.9634 and 40 CFR §264.1089(i)(3)]

Not Applicable