CATEGORY	PART 111 STATUTE	TENT PART 111	CONTENT RCRA RUL	CONTENT REQUIREMENT	LOCATION IN APPLICATION	CNOD COMMENT	
FORM	324.11123(2)	508(1)(a)		Application form.	Forms	EQP 5111 Form is missing. Module for Engineering Plans, Landfill Restrictive Covenant?	A11.A.5.(e)
CERTIFICATION	324.11123(2)	508(3)	270.11(d)	Certification signed by owner.		Only one signature. Could be because EQP 5111 form was not filed.	Note, we as and EQP51 one could b 3 seems to signature b
CERTIFICATION	324.11123(2)	508(3)	270.11(d)	Certification signed by titleholder of land.		Not filed. EQP5111?	See above.
HYDROGEO	324.11123(2)	504(1)(d), 506(1)(e)(iv), 508(1)(b)		Delineation of groundwater monitoring wells on Part B topographic map.	Figure A13-1	Figure A13-1 does not have monitoring wells on it.	See Figure
HYDROGEO	324.11123(2)	504(1)(d), 506(1)(e)(v), 508(1)(b)		Delineation of aquifers on Part B topographic map.	Figure A-13-1 and appendix C3-4 Drawing 100021134-Y1	Figure A-13-1 and Drawing 100021134-Y1 do not delineate aquifers.	Not finding
PART A	324.11123(2)	504(1)(b), 508(1)(b)	270.13(b)	Address, location (including latitude and longitude).		No Lat/Long	Is this in 51
PART A	324.11123(2)	504(1)(b), 508(1)(b)	270.13(l)	Topographic map extending one mile beyond property boundaries	Module A13	This figure needs updating from Dow Corning to Dow Silicones. The entire application should also be checked for site name consistency. Also, the Topo map shows the facility and 1-mile surroundings, but does not appear to include the detail required in 40 CFR 270.13(I). Additional information is needed to demonstrate that this information is provided somewhere on other maps in the application, or the Topo map needs updating to include the required elements.	(I) A topogr map if a top unavailable beyond the of the source and each of discharge s hazardous storage, or well where are injected those wells water bodie wells listed otherwise k within 1/4 property bo
WASTE ANALYSIS	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(3)	Procedures to determine the identity of each movement of off-site waste managed.	Figure A3-2	Figure lists Treatment. Application is for storage and disposal.	
INSPECTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(5)	Identify the frequency of inspection to comply with Subparts AA, BB, and CC air emission standards.		Not Found in Module A5 or C11.	
PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(i)	Description of measures to prevent hazards in unloading operations.		Not Found. 1-liner in the container module C1, but no description.	

- B.1 - for LF RC

agreed where 8700-3 111 were duplicative, be filed. However, 8700b be missing two blocks.

B5-1

this.

.11?

raphic map (or other pographic map is e) extending one mile e property boundaries ce, depicting the facility f its intake and tructures; each of its waste treatment, disposal facilities; each fluids from the facility d underground; and s, springs, other surface es, and drinking water in public records or known to the applicant mile of the facility oundary

Engineering Plans are in Modules specific to the units. See C1-3

DOW SILICONES Comments

EQP 5111 was previously submitted (see attached). Engineering drawings and plans are incorporated into modules C1-C3 as needed. See Appendix B2-2 for landfill restrictive covenant.

EQP 5111 was prevously submitted (see attached).

EQP 5111 was prevously submitted (see attached).

Figure B3-1 shows topographic figure and monitoring wells.

We agreed that figures B3-9, B3-10, B3-11 are sufficient for completeness.

Added Lat/Long to Module A1 General Desciption (see attached).

Figure A1-3 depicts topo with 1 mile radius. Confirmed no drinking water wells located within 1 mile of site. Figure B3-1 depicts all wells located within 1 mile, topo map, and surface water features.

Updated Figure A13-1_REV is attached. 4705 stormwater detention pond added.

Removed reference to treatment on figure A3-2 (see attached). No treatment at Facility.

Subpart AA not applicable.

Visual inspection frequency and description of Tanks and Containers is described in Modcule A5.

Inspection frequency of BB components added to Module C11.B.5(b) and C11.B.10 (see Module C11 - Subpart BB attached).

See Module C11 - Subpart CC C11.C4(a)(4) for inspection frequency of Level 1 containers and C11.C4(b)(6) of Level 2 containers. See C11.C.2(a)(4) for inspection frequency of tanks (see attached)

There are no Level 3 containers. See updated module A6.F prevention of hazards in loading and unloading areas (see attached).

PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(ii)	Description of measures to prevent runoff and flooding.		Not found in Module A6.	
PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(iii)	Description of measures to prevent contamination of water supplies.		Not found in Module A6.	_
PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(iv)	Description of measures to mitigate effects of equipment failures and power outages.		Perhaps related to A6.B. Not specifically discussed in Module A6 though. Elsewhere?	?
PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(v)	Description of measures to prevent undue exposure of personnel to hazardous waste.		Not found.	-
PREPAREDNESS & PREVENTION	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(8)(vi)	Description of measures to prevent releases to the atmosphere.		Not found.	
GENERAL	324.11123(2)	504(1)(c), 508(1)(b)	270.14(b)(19)	Topographic Map.	Figure A13-1	Not all items on included on the figure. In other diagrams? Need help finding.	
ENGINEERING	324.11123(2)	504(1)(g), 508(1)(b)		Engineering plans prepared and sealed by registered PE.	Appendices C1, C2	PE Seals appear to be missing.	Is the inte certificati these?
ENGINEERING	324.11123(2)	504(1)(g)(iv), 508(1)(b)		Process flow diagram.		Not Found.	Is this wh attachme

See updated module A6.G prevention of runoff and flooding (see attached). See updated module A6.H prevention of contamination of water supplies (see attached). See updated module A6.I migration effects of equipment failure and power outages (see attached). See updated module A6.J prevention of undue personnel

prevention of undue personnel exposure to hazardous wastes See updated module A6.K prevention of releases to the atmosphere(see attached).

Multiple topo maps/figures already submitted containing the items in 270.14(b)(19). Floodplain Map submitted in A13-2, Environmental Assessment Section has Wind Rose data (Figure B4-2), Zoning (Figure B4-4), Access control gates identified in the Contingency Plan Map. Updated Figure A13-1_REV is attached. 4705 stormwater detention pond added for drainage control.

We agreed certification of capability covers these.

We agreed that a process flow diagram is not needed for this Facility since there is no treatment.

tention that the tion of capability covers

hat is provided as an ent to the WAP?



Michigan Department of Environment, Great Lakes, and Energy Materials Management Division

OPERATING LICENSE APPLICATION FORM FOR

HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES Required under authority of Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act,

1994 PA 451, as amended. Failure to submit this information may result in civil or criminal penalties.

Note: Copies of the current EGLE Site Identification Form, EQP 5150, and the EPA Part A Permit Application Form, 8700-23, must be submitted with this application.

1	. FACILITY SITE ID N	IUMBER MID 000	0 809 632					
1	FACILITY'S LEGAL	OWNER	anizen me	57 - Sec 11		THE REAL PROPERTY.		THE RANGE AND
A.	Name DO\	N SILICONES CORPO	RATION				_	
B.	Street or P.O. Box	2200 WEST SALZBU	RG ROAD	_				
C .	City/State/ZIP	AUBURN, MI 48611						
D.	Telephone Number (area	a code included)	989-638-96	602				
E.	Owner Type P F	. Ownership Change	?	Y	N X	N/A	Date	
	. FACILITY OPERATO	OR			ALL STORES	A REAL PROPERTY.	Sector Sector	
Α.	Name DOW	/ SILICONES CORPOF	RATION					1 M M
Β.	Street or P.O. Box	3901 SOUTH SAGIN	AWROAD					
C.	City/State/ZIP	MIDLAND, MI 48640						
D.	Telephone Number (area	a code included)	989-638-96	602				
E.	Operator Type P	F. Operator Change	?	Y	NX	N/A	Date	
IV	TITLEHOLDER OF	LAND	In the second second					Service of the servic
Α.	Name DOW	/ SILICONES CORPOF	RATION					
В.	Street or P.O. Box	2200 WEST SALZBU	RG ROAD			· · · · · · · · · · · · · · · · · · ·		
C.	City/State/ZIP	AUBURN, MI 48611						
D.	Telephone Number (area	a coded included)	989-638-96	602				
V	OPERATING LICEN	SE APPLICATION	THE PARTY NAMES IN COLUMN	Constant of the	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			CONTRACTOR DATA DATA DATA DATA
Pla	ce an "X" in the appropria	te box under either A o	r B (select o	nly one bo				
A	Operating License Appli	ne box ander entrer A o	DISCIECT	my one bu				
	Coperating Electrice Applie		Place an "	X" here if s	applicatio	n is for a facil	ih that ha	a not been
	First Application for *Ex	isting Facility	previously licensed in Michigan to treat store, or diapage of					
		ioting r dointy	hazardous	waste an	d has inte	arim status pu	revent to	40 CEP 8270 70
<u> </u>			Place an "	X" here if r	enewala	annlication for	a facility i	40 01 N 9270.70.
			previously	licensed in	n Michia	an to treat sto	re or disi	nat was
	Renewal Application for	r *Existing Facility	waste and	whose ha	zardous	waste operati	ons have	not had any new
			constructio	on or been	altered.	enlarged or e	expanded	not had any new
	Application for Modifica	tion of License	Place an "	X" here if a	applicatio	n is for a licer	nse modifi	cation
	First Application for Res	search, Development,	Place an "	X" here if a	applicatio	n for a tempo	rary licens	se for RDD
L L L	and Demonstration (RD	D) License			-ppnoada			
	Denouvel Application for		Place an "	X" here if a	applicatio	n for the rene	wal of a te	emporary license
	for RDD.							
B.	B. Operating License Application for New, Altered, Enlarged, or Expanded Facility							
	Place an "X" here if application is for a new facility or a facility that					a facility that		
	wishes to alter, enlarge, or expand its hazardous waste operations.							
For	For existing facilities, provide date operation began. Date ~ 1943							
For RDD activities, provide the date RDD began or exp			expected to	begin.	0.5	0	Date	A.
For new, altered, enlarged, or expanded facilities, provide date expected construction to begin. Date								
*Ex	*Existing Facility means a hazardous waste treatment, storage, or disposal facility (TSDF) that either received all							
nec	essary state-issued envir	onmental permits or lice	enses before	e January	1, 1980.	or for which a	pproval o	f construction
was	received from the Air Po	llution Control Commis	sion before	November	19, 1980	0, or before pr	omulgatio	on of new federal
rule	s that caused the facility	to become subject to re	gulation as	a TSDF. E	Existing f	acilities also in	nclude TS	DFs that were
ope	rating before January 1, 1	1980, under existing au	thority, or be	efore prom	ulgation	of new federa	I rules that	it caused the
faci	facility to become subject to regulation as a TSDF and that did not require state-issued environmental permits or licenses.							

VI.	(OPERATING LICENSE APPLICATION FEES		Later Martin Martin
A. Operating License Application Fixed Fee			\$	500
	B. Additional License Application Fees for New, Altered, Enlarged, or Expanded Facility			25,000
and the second second		Check Type of Facility		
		Land Disposal (\$9,000)	\$	
		Incineration or Other Treatment (\$7,200)	\$	
		Storage (\$500)	\$	
Total Operating License Fee			\$	500
	-			

Note: Checks shall be made payable to the "State of Michigan" and the state accounting code "HWOL" written in the memo portion. Checks shall be mailed to EGLE, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157, with a copy of payment included with application that is mailed to the EGLE, MMD, P.O. Box 30241, Lansing, Michigan 48909-7741.

VII.	VII. EXISTING ENVIRONMENTAL PERMITS (attach copies of each as proof of issuance)					
	Α.	NPDES (Discharges to Surface Water) Permit Number	MIS420000 – NPDES General Permit and Certificate Of Coverage (see permits section)			
	B .	UIC (Underground Injection of Fluids) Permit Number				
	C.	RCRA (Hazardous Waste) Permit Number	Part 111 RCRA Hazardous Waste MID 000 809 632			
	D.	PSD (Air Emissions From Proposed Sources) Permit Number				
	E.	Other (Specify below) Permit Number	MI Renewable Operating Permit – MI-ROP- A4043-2019 (see permits section)			

VIII. NATURE OF BUSINESS (Provide a brief description)

DOW SILICONES CORPORATION IS A CHEMICAL MANUFACTURER OF SILICONE BASED MATERIALS AND INTERMEDIATES: FLUIDS, LUBRICANTS, ELASTOMERS, SILANES AND RESINS

IX. MAP

Attach to this application a topographic map of the area extending at least one mile beyond the property boundaries. The map must show the legal boundaries of the facility; the location of each of its existing and proposed intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities, including the location of all processes listed in Items XII and XIII identified by process code; and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area, plus all drinking water wells within a quarter mile of the facility that are identified in the public record or otherwise known to you. (see instructions for specific requirements)

SEE TOPO MAPS IN FACILITY DESCRIPTION ATTACHMENT

FACILITY DRAWING

All existing facilities must include a scale drawing of the facility showing the property boundaries of the facility; the areas occupied by treatment, storage, or disposal operations that will be used during interim status; the name of each operation (drum storage area, etc.); areas of past TSD operations; areas of future TSD; and the approximate dimensions of the property boundaries and all TSD areas. Where applicable, use the process codes listed in Items XII and XIII to indicate the location of all TSD. This drawing should fit on an 8.5 by 11 inch sheet of paper. SEE ATTACHED SITE PLAN DRAWING

XI. PHOTOGRAPHS

All existing facilities must include photographs that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. Use the process codes and descriptions in Items XII and XIII to indicate the location of all TSD areas. Indicate the date of the photograph on the back of each photograph. Photographs may be in color or black and white, aerial or ground-level.

SEE ATTACHED PHOTO LOG

-										
XII	PROCE	SS CODES A	ND DESIG	GN CAPACITIE	S (see in	structions)				
8	A. Process	B. Process De	sign Capa	city		A. Process	B. Pro	cess Desig	n Capacity	
	Code (from list)	B.1. Quantity	B.2. Uni Measu	t of For Offic re Use On	ial 3	Code (from list)	B.1. (Quantity	B.2. Unit of Measure	For Officia Use Only
<u>.</u>	S01	85,000	G		6.					
<u>.</u>	S02	60,000	G		7.					
). L		403	A		8.					
5. 10										
).	Additional P	rocess Codes	or Descrip	ption of Nonlist	ed Proce	sses (Codes	"S99" a	nd "T04")		
	LINE 1: C	ONTAINER S	TORAGE E IN 806	IN 809 BUILDI TANK FARM	NG					
	LINE 3: L/	ANDFILL DISF	POSAL							
III	DESCRIPTI	ON OF HAZAR	RDOUS W	ASTES	"Supplier	and togethering				
	A. Hazardous	B. Eatimate	d Annual	C. Unit of	D. Proc	esses				
	Vaste Number (enter code)	B. Estimate Quanti Waste	ty of	Measure (enter code)	D.1 Pr (e	ocess Codes enter code)		D.2 Proce (if no	ess Description o code entered i	n D.1)
	See Attache For Waste Types and codes	ed 27,000,0	00	P (pounds)	S02			Waste st	ored in tanks	
	See Attache For Waste Types and codes	ed 17,000,0	00	P (pounds)	S01			Waste si	ored in contair	ners
							\vdash			
								· · · ·		
V	OTHER	REQUIRED A	TTACHM	ENTS						Sugar In
•	General Info	mation (each	item shou	nd be a separa	ite attach	ment to the a	application 11	Closure a	and Postclosure	(C/PC)
1. General facility description 6. Preparedness/prevention or waiver* 11. Closure and Postclosure (C/PC) 2. Chemical and physical analyses* 7. Contingency Plan* 12. C/PC cost estimates* 3. Waste Analysis Plan* 8. Traffic information 13. Topographic map 4. Security procedures and equipment 9. Location information 14. Liability mechanism 5. Inspection schedules* 10. Personnel training program* 15. Financial assurance instrument										
		المستحد مغالمها	ata analiani	Non						
U٤	se template pro	bvided to compli	ete applica					_		

 Status of compliance with other federal laws Corrective action information* 	 Engineering plans Proof of issuance of other permits or licens 	es
3. Hydrogeological Report*	8. Capability certification/compliance schedul	e
5 Environmental monitoring Programe*	9. Restrictive covenant (landfills only)	
o. Environmental monitoring Programs	10. Construction certification (new, altered, eni	arged, or expanded)
* Use template provided to complete application		
C. Facility Specific Information (each item, if needed	, should be a separate attachment to the ap	oplication)
1. Containers*	8. Land treatment	da li
2. I anks"	9. Miscellaneous units	
3. Incineration or thermal treatment	10. Underground mines or caves	
4. Itedunieni 5. Surface impoundmente	11. Unp pads	
6 Waste niles	12. Bollers and industrial turnaces	
7 Londfile	13. Air emissions from process vents,	equipment leaks, tanks,
7. Lanomis	containers, and surface impoundry	ients**
* Use template provided to complete application	** Use templates C.11-AA, C.11-BB, and complete application	nd C.11-CC provided to
M.L. AND MINISTRATION OF A		
XV. CERTIFICATION		
I certify under penalty of law that this document and a	Ill attachments were prepared under my dire	ection or supervision
according to a system designed to assure that qualified	ed personnel properly gather and evaluate t	he information
submitted. Based on my inquiry of the person or pers	sons who manage the system, or those pers	ons directly
responsible for gathering the information, the information	tion submitted is, to the best of my knowled	ae and belief, true.
accurate, and complete. I am aware that there are sig	gnificant penalties for submitting false inform	nation, including the
possibility of fine and imprisonment for knowing violat	ions.	
Jaume Sariol – Site Director	and the second	3/25/22
		0.20.22
	- Company	
OWNER NAME (type or print)	SIGNATURE	DATE SIGNED
Jaume Sariol – Site Director		3/25/22
OPERATOR NAME (type or print)	SIGNATURE	DATE SIGNED
Daw Siliaanaa Corneration	(American)	3/25/22
Dow Silicones Corporation		
TITLEHOLDEROF LAND NAME (type or print)	SIGNATURE	DATE SIGNED
	~	





FIGURE A13-1 USGS TOPOGRAPHIC MAP

CLIENT

DOW SILICONES CORPORTATION MIDLAND, MI

MODULE A1

GENERAL FACILITY DESCRIPTION R 299.9504(1)(c) and R 299.9508(1)(b) 40 CFR 270.14(b)(1)

List of Figures

Figure A1-1	Site Location Map
Figure A1-2	Regional Topographic Map
Figure A1-3	Local Topographic Map

List of Appendices

Appendix A1-1	Midland Location Plot Plan (Drawing Y1-30100)
Appendix A1-2	Photographic Log

A1.A GENERAL DESCRIPTION

The Dow Silicones Corporation (DSC) facility occupies approximately 350 acres of land in the southern portion of the City of Midland in Section 26 of Midland Township: Township 14N, Range 2E (Figure A1-2). Only 0.75 acre of the Dow Silicones facility is regulated under RCRA or Part 111 of Act 451. <u>This facility is located in the City of Midland in Midland County, Michigan, Latitude (North): 43591667; Longitude (West): 84.191667.</u>

Dow Silicones Corporation (formerly known as Dow Corning Corporation) was founded in 1943 to develop and manufacture a newly discovered class of polymeric materials based on silicon chemistry. Today this technology is used to produce thousands of products, used in every major industry including aerospace, medicine, automotive, electronics, paper and textiles.

At the Midland site, Dow Silicones manufactures a variety of silicon-based intermediates for use in industrial processes by other Dow Silicones locations and by industrial customers, as well as finished products for end markets. Hazardous wastes are generated from the manufacturing processes, off-spec products, pollution control devices, cleaning of process equipment, and from pilot plant and laboratory operations. Dow Silicones maintains an active waste minimization program to reduce the quantity and toxicity of hazardous wastes generated, through source reduction and waste recovery, reuse and reclamation.

The licensed hazardous waste facility at the Midland plant is located in the 800 and 1000 blocks, as shown on drawing Y1-30100, "Midland Location Plot Plan", located in Appendix A1-1. The licensed facility consists of the 809 container storage building, the 806 tank storage with adjacent tanker loading area, along with support structures and other equipment in the 800 block, and a hazardous waste landfill, the active portion of which is in the 1000 block.

The licensed facility serves the following function:

1. Accumulation of wastes generated at the Midland plant prior to shipment to off-site facilities for treatment or disposal;

No hazardous waste will be disposed of in the landfill. Only non-RCRA regulated materials are disposed of in the landfill, examples include: RCRA-empty containers; containers of non regulated gloves, rags, pieces of metal and glass and other debris; column packing; cleaned process equipment; asbestos; construction debris; solidified silicone sealants, rubber and gums; solidified polysiloxane gels; nonhazardous contaminated dirt; nonhazardous sandblast media and used office furniture.

No wastes containing free liquids are disposed in the landfill and no lead contaminated (D008) hazardous wastes have been placed in the landfill since 1985.

A1.A(1) Facility Location

Facility location:	Facility mailing address:
Dow Silicones Corporation 3901 South Saginaw Road	Dow Silicones Corporation 1790 Building, Washington Street
Midland, Michigan 48640	Midland, Michigan 48674

The site is privately owned and is not located on government or Indian lands. There are no salt dome formations, salt bed formations, underground mines or caves on-site. An old coal mine is located in nearby Bay County, just east of the Midland area.

A1.A(2) Facility Owner

The Dow Silicones Midland plant and licensed facility are owned by:

Dow Silicones Corporation 2200 West Salzburg Road Auburn, Michigan 48611

A1.A(3) Responsible Persons

The contact and responsible individual for operation of the Dow Silicones Midland site licensed hazardous waste facility is:

Production Leader, Infrastructure Services 414 Building, Michigan Operations Dow Silicones Corporation Midland, Michigan 48667

FORM EQP 5111 ATTACHMENT TEMPLATE A6 PREPAREDNESS AND PREVENTION

This document is an attachment to the Michigan Department of Environmental Quality's *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities.*

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, and R 299.9606 and Title 40 of the Code of Federal Regulations (CFR) §§264.30 through 264.37 establish requirements for preparedness for and prevention of releases of hazardous wastes or constituents at hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for preparedness for and prevention of releases of hazardous wastes or constituents at the following hazardous waste management facility for the Dow Silicones Corporation Midland Plant Site facilities in Midland, Michigan.

(Check as appropriate)

Applicant for Operating License for Existing Facility:

No waiver requested



- Waiver requested for one or more units for required equipment
- Waiver requested for one or more units for required aisle space

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

No waiver requested



Waiver requested for one or more units for required equipment

Waiver requested for one or more units for required aisle space

This template is organized as follows:

INTRODUCTION

- A6.A REQUIRED EQUIPMENT
 - A6.A.1 Internal Communication System
 - A6.A.2 Emergency Response Communication System
 - A6.A.3 Fire, Spill, and Decontamination Equipment
 - A6.A.4 Adequate Water Volume
- A6.B TESTING AND MAINTENANCE OF EQUIPMENT
- A6.C ACCESS TO COMMUNICATIONS OR ALARM SYSTEM
 - A6.C.1 Multiple Employees Present
 - A6.C.2 Single Employee Present

- A6.D REQUIRED AISLE SPACE
- A6.E STATE OR LOCAL AUTHORITIES
 - A6.E.1 Arrangements with State or Local Authorities
 - A6.E.2 Refusal of State or Local Authorities to Enter into Emergency Response Agreements

A6.F PREVENTION OF HAZARDS IN LOADING AND UNLOADING AREAS

A6.G PREVENTION OF RUNOFF AND FLOODING

A6.H PREVENTION OF CONTAMINATION OF WATER SUPPLIES

A6.1 MITIGATION EFFECTS OF EQUIPMENT FAILURE AND POWER OUTAGES

A6.J PREVENTION OF UNDUE PERSONNEL EXPOSURE TO HAZARDOUS WASTES

A6.K PREVENTION OF RELEASES TO THE ATMOSPHERE

INTRODUCTION

A6.A REQUIRED EQUIPMENT

[R 299.9606 and 40 CFR §264.32]

A6.A.1 Internal Communication System

[R 299.9606 and 40 CFR §264.32(a)]

Dow Silicones Corporation Midland facilities are equipped with internal communication or alarm systems (e.g., area alert siren, intercom system, internal telephones, and two-way radios) capable of providing immediate emergency instruction to facility personnel. The area alert siren may be used to signal a facility alert (one rise to maximum pitch), evacuation (continuous rise to maximum pitch), or all clear (two rises to maximum pitch). The intercom system, internal telephones, and the two-way radios may be used to notify plant personnel as to the nature of the emergency and recommended plan of action.

A6.A.2 Emergency Response Communication System

[R 299.9606 and 40 CFR §264.32(b)]

Dow Silicones Corporation Midland facilities are equipped with internal telephones and two-way radios capable of summoning emergency assistance from Dow's Emergency Services & Security department (ES&S). Dialing 1-2-3 on an internal telephone or 989-636-4400 on a non-Dow telephone and using the "help" channel or pressing the emergency call button on any Dow two-way radio puts personnel in direct contact with ES&S. If necessary, ES&S will contact the appropriate local or state authority (e.g., police, fire, etc.) for assistance.

A6.A.3 Fire, Spill, and Decontamination Equipment

[R 299.9606 and 40 CFR §264.32(c)]

Dow Silicones Corporation Midland facilities are equipped with fire, spill and decontamination equipment. See Attachment A7.3, Emergency Equipment Description, in Attachment XIV.A7, Contingency Plan, of this operating license reapplication for details.

A6.A.4 Adequate Water Volume

[R 299.9606 and 40 CFR §264.32(d)]

The Facility has water at adequate volume and pressure to supply water hose streams, foamproducing equipment, automatic sprinklers, or water spray systems. The Facility fire water is distributed via an underground looped fire water distribution system. The Facility fire water is taken from the Tittabawassee River with Lingle drain as a backup source.

A6.B TESTING AND MAINTENANCE OF EQUIPMENT

[R 299.9606 and 40 CFR §264.33]

Facility communication and alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where necessary, are tested and maintained to assure proper operation during an emergency. Given the long list of equipment in Attachment A7.3, Emergency Equipment Description, in Attachment A7, Contingency Plan, of this operating license reapplication, all of the testing and maintenance procedures and schedules are not listed here, but are available for inspection by the agency upon request.

A6.C ACCESS TO COMMUNICATIONS OR ALARM SYSTEM

[R 299.9606 and 40 CFR §264.34]

A6.C(1) Multiple Employees Present

[R 299.9606 and 40 CFR §264.34(a)]

Facility personnel working within the active areas of the Midland Plant Site are equipped with hand-held two-way radios, and other communication devices (e.g., telephone, intercom, and alert siren switches) are located in easily accessible areas throughout the facilities. Workers are instructed to maintain the area surrounding the communication devices free from obstructions that would impair access to them.

A6.C(2) Single Employee Present

[R 299.9606 and 40 CFR §264.34(b)]

At no time will the Midland Plant facility handle waste with just one employee on the premises. There are instances at the Dow Silicones Landfill facility when the Landfill operator will be handling waste and is the only employee on the premises. The Landfill operator is equipped with a hand-held two-way radio that is capable of summoning assistance from other operators located at the adjacent Midland Plant facility or directly from Dow's ES&S department via a "help" channel or emergency call button located on the radio.

A6.D REQUIRED AISLE SPACE

[R 299.9606 and 40 CFR §264.35]

Sufficient space is provided within the facilities to allow for unobstructed movement of necessary personnel, fire protection equipment, spill control equipment and decontamination equipment in an emergency. For areas with fixed equipment this criteria is considered and established during design and construction. For areas storing or handling portable containers (e.g., packs, drums, totes, carbon pods, roll off boxes, tank trucks, etc.), an approximately two-

foot aisle is maintained between containers to ensure adequate access. An eight foot main aisle space is maintained in the 809 Building hazardous waste container storage area.

A6.E STATE AND LOCAL AUTHORITIES

[R 299.9606 and 40 CFR §264.37]

A6.E.1 Arrangements with State and Local Authorities

[R 299.9606 and 40 CFR §264.37(a)(1)]

Arrangements have been made to familiarize police, fire departments, and emergency response teams with the layout of the facilities, properties of the hazardous waste handled at the facilities and associated hazards, places where facility personnel will be working, entrances to and the roads inside the facilities and the possible evacuation routes. Arrangements have also been made to familiarize local hospitals with the properties of the hazardous waste handled at the facilities and the types of injuries and illnesses that could result from fires and explosions or releases at the facilities. Details on these arrangements are below.

Due to the complexity of the Midland Plant Site, local authorities are always escorted while on site. The escort provides information on a case-by-case basis. This information includes facility layout and chemical properties of involved materials (including hazardous waste properties). The escort determines a safe route to the involved area and escorts authorities along evacuation routes, if necessary.

Police Support

In an emergency involving these facilities, Dow could request the support of local, county, or state police in the event that:

- 1. The emergency had the potential to impact the local community and evacuation of such potentially affected areas was necessary.
- 2. People gather at critical locations on the perimeter of Dow's facility and could be potentially in danger or pose a danger by restricting access to the facility for crucial response equipment, supplies, or personnel.
- 3. If, due to the nature of the emergency, specialized equipment materials or supplies are needed onsite and special route clearances or traffic control is required to expedite delivery of such materials, equipment, or supplies. In this case, police and sheriff departments will provide off site evacuation of affected portions of the community, barricading, traffic control, and/or possible escort for emergency activities.

Medical Support

The Facility has a full time medical staff including full time physicians, Emergency Medical Technicians (EMTs), and a trained nursing staff. Nurses, EMTs, and physicians are onsite or available on-call for emergencies 24 hours per day, 7 days per week.

In general, the Dow Health Services Department will evaluate all injuries to personnel and visitors at Michigan Operations Midland Plant. Acute chemical exposures and minor injury cases can be treated in-house. Severe injuries or occupational illnesses that require hospitalization or treatment by specialists are treated and transported to the MidMichigan Medical Center (MMMC).

Dow staff physicians are also full-time members of the Midland Hospital staff and have admitting privileges to the MMMC. In addition, the Dow Health Services Department participates in

training Dow EMTs, the Midland County Paramedics, and the Family Practice Residents in the MMMC.

Also, during practice emergency exercises, the Dow Health Services staff coordinates closely with the MMMC to monitor and treat injuries or exposures.

Finally, should evacuation of the Dow Health Services Facility be necessary, the staff would regroup and continue to coordinate medical support activities from the MMMC.

Medical Emergency Vehicles

The Michigan Operations Midland Plant, Midland locations utilize on-site ambulances for transporting injured people to the Dow Health Services Department or the MMMC. In addition, Midland County has paramedics and the MMMC has ambulances on call as needed.

Outside Fire Fighting Support

The Dow Fire Department is equipped and trained to handle all types of fires that could be associated with the hazardous waste operations of Michigan Operations Midland Plant. Outside fire support, such as the City of Midland Fire Department, would be called upon only under circumstances where Dow feels further fire fighting support is necessary and such outside fire departments are appropriately trained and equipped. Such situations could include fires that have or could spread to additional facilities within Michigan Operations Midland Plant, or fires that have or could spread to areas outside Dow property. In all cases, the decision by Dow to call in outside fire fighting support would depend upon the nature of the fire and Dow's knowledge of the capabilities and limitations of such other fire departments.

During practice emergency exercises, the Dow Fire Department works closely with the City of Midland Fire Department to monitor and evaluate fire fighting resources and responses to the practice emergency.

A6.E.2 Refusal of State or Local Authorities to Enter into Emergency Response Agreements [R 299.9606 and 40 CFR §264.37(b)]

There have been no refusals by state or local authorities to enter into emergency response agreements.

A6.F PREVENTION OF HAZARDS IN LOADING AND UNLOADING AREAS [40 CFR 270.14(b)(8)(i), R 299.9605(1)]

All hazardous wastes arriving at this facility have been previously evaluated and approved, as described in Module A3, "Waste Analysis Plan." On the basis of this knowledge, as well as the information accompanying the shipment and on container labels, Dow Silicones is able to take proper precautions for each type of hazardous waste received and that incompatible wastes are not mixed in such a manner as to cause an uncontrolled reaction.

Liquid hazardous wastes in various container types and sizes, including portable bulk containers, tank trailers, and vacuum tankers, etc., are loaded and unloaded at the facility tank farm. Non-RCRA regulated containerized and bulk solid wastes may be unloaded at the landfill.

1. Container Storage Loading and Unloading

Wastes generated at the Midland plant are picked up from the generating locations and transferred to the licensed facility on pallets via industrial lift truck, flatbed trailer, or closed van trailer. Types of containers used for transporting hazardous wastes include steel, plastic and fiber drums, totes and pails, and portable containers of various capacities. All containers used for storage and off-site shipment of hazardous wastes meet all applicable U.S. DOT requirements.

Upon arrival at this facility, containerized hazardous wastes are visually inspected and unloaded by forklift. If a container is found to be leaking, corroded, dented, or otherwise in unacceptable condition, the container is either overpacked or its contents transferred to a container in good condition.

If a container is overpacked, a salvage drum is used that is compatible with the wastes in the original container and it is labeled with the same information as was required on the original container. If a container is transferred, the contents of the container are transferred to another container which is in good condition, is compatible with the waste being transferred, and contains no materials incompatible with the waste being transferred. This container is then labeled with the same information as was required on the original container. Grounding and bonding are used when transferring flammable materials to prevent buildup of static electricity that could cause accidental ignition.

Containers of potentially incompatible wastes are isolated on separate pallets. Containers are then moved to one of the container storage areas and stored in rows, with a minimum of three feet of aisle space between rows. If a pallet is found to be in unsound condition such that its use may be unsafe, the containers on it are transferred to a good pallet.

Containers of hazardous wastes and non- RCRA regulated materials are loaded and unloaded at the 809 container storage building. The area is paved and provided with adequate secondary containment. In order to minimize the risk of release of hazardous waste or constituents to soil and groundwater, containers of hazardous waste are unloaded only in paved areas. Adequate stocks of absorbent materials are maintained at the container storage building for use in spill cleanup. If any hazardous waste is spilled during loading or unloading of containers, the spilled material is immediately contained and absorbed, then packaged for proper disposal.

Many of the hazardous wastes managed at this facility are ignitable. Potential sources of ignition are minimized in the container loading and unloading areas and smoking is not permitted anywhere within the licensed facility to prevent fires and explosions.

2. Tank Storage Loading and Unloading

a. Bulk Transfers

Liquid hazardous wastes are transported in bulk, via tank trailer and vacuum truck. Tank trailers and vacuum tankers used for transporting hazardous wastes meet all applicable U.S. DOT requirements for the wastes being transported.

Bulk tanker and vacuum tanker loads of liquid hazardous wastes are loaded and unloaded at one of the tanker loading and unloading areas adjacent to the tank farm. The driver of the truck and the tank farm operator are required to stay within 25 feet of the truck during hazardous waste transfer operations.

The tank farm and tanker loading/unloading areas are provided with secondary containment to ensure that any materials which could be spilled during loading or unloading do not contaminate soil or groundwater. Since many of the wastes handled at this facility are ignitable, smoking is not permitted anywhere in the licensed facility, including the tank farm area. Truck engines are required to be shut off during loading and unloading, unless required for operation of a vacuum tanker unit, to minimize the risk of accidental ignition of flammable vapors. Tankers, portable tanks, and storage tanks containing flammable liquids are vapor balanced and are vented to the appropriate storage tanks during loading and unloading to prevent accidental ignition of flammable wapors. During transfers of ignitable materials all equipment, including tanks, ancillary equipment, tank trucks, and containers, is grounded and bonded to prevent buildup of static electricity would could cause accidental ignition.

Because the waste IPA/siloxane storage tank (tank 19785) and the waste methoxysilane storage tank (tank 19784) contain materials which are incompatible with the contents of the four waste solvents storage tanks (tanks 19781, 19782, 19783 and 19786), great care is taken to prevent mixing of these wastes. Three separate piping headers are used for transfers to these tanks, one dedicated solely for siloxane, one for methoxysilane, and one for solvents. Tankers to be loaded or unloaded are connected to the appropriate tank through chemical resistant hose to the tanker loading/unloading station, through the transfer pump to the appropriate tank header. The desired tank is selected by opening the valve from the header to the appropriate tank piping. To ensure that incompatible materials do not commingle in the tanker connection, pump, and header, after each waste transfer any residual material is blown out through the tank piping and into the appropriate tank using nitrogen gas.

Overfilling of tanks is prevented by the use of tank overfill ("High-High") alarms. Each storage tank is equipped with a level sensor that activates alarms that sound at both the 806 tank farm and in the 808 office trailers, where the remote emergency shutoff for the tank farm is located. The high level sensor also actuates and automatic valve in the fill line to the tank, shutting off flow of waste into the tank. Tank transfer operations are always attended by facility personnel, who are present in the tank farm to shut off the transfer pump if the high level alarm sounds. In case of an emergency that results in the tank farm operator being unable to shut off the transfer pump, the remote emergency shutoff in the 808 trailers can be used to shut down all transfer operations in the tank farm from a safe distance.

b. Transfer of Containers to Tanks or Bulk Tankers

Types of containers used for transporting liquid hazardous wastes include steel, plastic and plastic-lined fiber drums and pails, and portable tanks, both pressure and nonpressure. Containers used for shipment of hazardous wastes meet all applicable U.S. DOT requirements. Containers of liquid hazardous wastes to be transferred into storage tanks may be transported directly to the tank farm by truck, or may be unloaded at one of the container storage areas and subsequently transported to the tank farm by fork lift.

Transfer of liquid hazardous wastes from portable bulk containers, both pressure and non-pressure types, is performed in a similar manner as transfer from a bulk tanker. The portable bulk container is placed in an area adjacent to the tank farm, which is provided with secondary containment to ensure that any materials spilled during loading or unloading do not contaminate soil or groundwater. Portable tanks containing flammable liquids are provided with an inert nitrogen atmosphere during loading and unloading to prevent accidental ignition of flammable vapors. Transfer of wastes is carried out through a transfer pump and header to the desired tank, as described above for tanker transfers. The portable bulk tank, storage tank, and ancillary equipment used in the transfer are provided with bonding and grounding to prevent buildup of static electricity which could cause accidental ignition.

Transfer of liquid hazardous wastes from non-bulk containers is carried out by using a "wand", which is a piece of pipe long enough to reach to the bottom of the container, attached to a length of chemical resistant hose. The other end of the hose is then connected to a transfer pumping station and the contents of the container are pumped to a storage tank using a transfer pump, pipe header, and tank piping, as with tanker or portable tank unloading described above. The container being transferred, the storage tank, and all ancillary equipment used in the transfer are provided with bonding and grounding to prevent build-up of static electricity which could cause accidental ignition. Operators performing these transfers are trained to stop pumping as soon as a container is empty, to prevent introduction of air into the receiving tank. The high level alarm and automatic shutoff system also operates in transfers of containerized wastes to the storage tanks, to prevent overfilling.

3. Transfers to Landfill

Wastes transferred to the landfill are delivered to the active cell by truck or by forklift. No liquids and no ignitable, corrosive or reactive wastes are disposed of in the landfill, so the potential for hazard during unloading is minimal. Wastes to be landfilled are placed on the edge of, or in the active cell by the vehicle making the delivery. The waste is then moved into place by a bulldozer, loader or similar piece of heavy equipment and covered as required, with six inches of approved daily cover, leaving no more than 1,000 square feet of waste surface exposed at any time.

A6.G PREVENTION OF RUNOFF AND FLOODING [40 CFR 270.14(b)(8)(ii), R 299.9605(1)]

Potential sources of runoff or flooding from spills or precipitation are the 809 container storage building, the 806 tank farm, and the 1000 Block landfill. The Site Interceptor System, as described below, further ensures that no contamination will reach groundwater or surface waters.

1. Container Storage

Runoff from the container storage areas is prevented by those areas being provided with secondary containment of sufficient capacity to contain at least 10% of the total amount of hazardous waste stored. The container storage areas are also completely under roof to exclude precipitation, so there is no contaminated rainwater runoff. See Module C1, for details of the design, construction, and capacity of the container storage areas.

2. Tank Storage

Runoff from the 806 tank farm is prevented by the tank farm secondary containment dike, which completely surrounds all six hazardous waste storage tanks and has sufficient capacity to contain the entire contents of any of the tanks, as well as 24 hours of a 100-year rainfall.

3. Landfill

Runoff from the landfill to surrounding areas is prevented by the perimeter drainage ditch which encircles the entire 1000 Block landfill. This ditch collects rainwater runoff from the outer walls of the landfill, which then flows to the wastewater sewer. The wastewater sewer flows to Dow Chemical's wastewater treatment plant for treatment of hazardous constituents as required under their NPDES permit, prior to discharge.

4. Site Interceptor System

The entire Dow Silicones Midland site, including the licensed facility, is surrounded by a shallow groundwater collection system. The Site Interceptor System (SIS) consists of buried drain tiles which collect shallow groundwater flowing off-site. Underlying the site is a naturally occurring layer of dense clay of very low permeability, as described in greater detail in Module B3, "Hydrogeologic Report".

Rainwater incident to the site which is not otherwise collected in spill ponds, storm water sewers or the wastewater sewers is absorbed into surface soils and flows generally towards the southwest above the layer of clay. This shallow groundwater flow is captured by the SIS and pumped to the wastewater sewer system, which flows to Dow Chemical's wastewater treatment plant for treatment in accordance with the requirements of their NPDES permit, prior to discharge to the Tittabawassee River. In this manner, any contamination which escapes Dow Silicones extensive system of secondary containment will eventually be captured and treated and will not contaminate either surface waters or natural aquifer drinking water supplies. The design, construction, and operation of the Site Interceptor System are described in detail in Module B2.

A6.H PREVENTION OF CONTAMINATION OF WATER SUPPLIES [40 CFR 270.14(b)(8)(iii), R 299.9605(1)] & CONTROL OF RUN-ON

<u>Contamination of water supplies is effectively prevented by both structural and non-structural controls.</u>

All loading and unloading operations and all hazardous waste storage at this facility are located in areas for which adequate secondary containment is provided so that, in the event of a spill, hazardous waste or hazardous waste constituents can not reach water supplies. Should any hazardous wastes contact the ground outside of the storage areas, for example, during transportation, any spilled materials are cleaned up immediately. If any contamination is somehow not contained within secondary containment, is not absorbed and collected for disposal and is not collected in the wastewater sewer system which flows to Dow Chemical's wastewater treatment plant, then the contamination, if mobile, would flow to the Site Interceptor System and from there be pumped to the wastewater sewer system for treatment.

Control of run-on into the 809 Building container storage area is provided on all sides, except at the north end overhead doorways, by a concrete curb six inches in height. At the north doorways the exterior parking lot is sloped away from the building to prevent run-on. All the tanks located at the facility have secondary containment. The 806 tank farm is provided with a concrete dike and floor, with a containment trench around the inside of the containment area that serves as an external liner. The tank farm secondary containment drains to a round sump at the south end of the tank farm that is equipped with a pump for transferring accumulated liquids to the wastewater sewer. If accumulated liquids are not pumped out and the volume exceeds the capacity of the sump and tank farm secondary containment, overflow from the sump flows through a coated concrete trench to the outside secondary containment structure.

1. Container Storage

809 Building

The 809 Building container storage area is constructed with a sloped, coated concrete floor that drains by way of a coated concrete trench to the outside secondary containment structure. This structure is constructed of compacted clay with a chemical resistant synthetic liner and has a capacity that is sufficient to contain the required 10% of the storage area capacity plus 24 hours of a 100-year rainfall event incident to the pond. Because it is under roof, there will be no accumulated rainfall in the container storage area. The pavement outside the entry doors is sloped away from the building to prevent run-on of precipitation into the container storage area.

2. Tank Storage

The 806 tank farm is provided with secondary containment consisting of a coated floor and dike walls. Liquids accumulated within the containment dike drain by way of a coated concrete trench to the outside secondary containment structure. The six hazardous waste storage tanks located in the 806 tank farm each has a capacity of 12,115 gallons when completely full, or a working capacity of about 10,000 gallons. The spill pond has sufficient capacity to contain the total contents of all six tanks, although the required capacity is only to contain the single largest tank. This excess capacity minimizes the possibility of impacts to the environment.

3. Landfill

All leachate from the 1000 Block landfill is collected by the leachate collection system and pumped to the wastewater sewer system for treatment at Dow Chemical's wastewater treatment plant under their NPDES permit prior to discharge. All shallow groundwater leaving the landfill area is captured by the Site Interceptor System, which surrounds the entire Dow Silicones Midland site. The leachate collection system and the Site Interceptor System help prevent contamination of drinking water supplies, soil, groundwater or surface waters.

4. Site Interceptor System

The entire Dow Silicones Midland site, including the licensed facility, is surrounded by the Site Interceptor System (SIS), which captures all shallow groundwater migrating off-site and pumps

it to the wastewater sewer system for treatment. The design, construction, and operation of the SIS are described in briefly above and also in Module B2. The SIS is the final system that will prevent contamination of drinking water supplies, soil, groundwater or surface waters in the event that other systems or procedures fail.

A6.I MITIGATION OF EFFECTS OF EQUIPMENT FAILURE AND POWER OUTAGES [40 CFR 270.14(b)(8)(iv), MAC 299.9605(1)]

There are no treatment operations occurring at this facility, therefore no treatment process equipment which could fail or which could cease operations due to power failure exists. The hazardous waste storage tanks are not equipped with agitators which could fail or which could cease operations due to power failure.

1. Container Storage

There is no automated or mechanized waste handling or processing equipment in the hazardous waste container storage areas. The only equipment failure which could affect operations at the container storage areas would be the breakdown of the lift truck used to move the containers. Should this occur, no special hazard would occur beyond the possibility of a minor spill due to dropping a container. Since these areas are paved and the storage areas are provided with secondary containment, and spilled materials are cleaned up immediately, no hazardous wastes or constituents would reach soil or groundwater. Restriction of possible sources of ignition from these areas ensures that spilled material would not be ignited.

Loss of electrical power would affect the alarm systems but facility personnel are equipped with portable radios for communication and would be able to report any emergency immediately to Dow Emergency Services personnel. In the event of power outage facility personnel will monitor conditions in the container storage areas to ensure no hazards develop.

2. Tank Farm Loading and Unloading

During tank farm loading or unloading operations, an equipment failure or power outage could cause cessation of transfer activities, if a pump failed or power to the pump were interrupted. If this should occur, all waste transfer operations will be terminated and facility personnel will close the valves to the hazardous waste storage tank being used, and to any tanker or portable bulk container involved in the transfer. A power outage could also cause tank controls and alarms to cease functioning. If this should occur, all waste transfer operations will be terminated immediately and facility personnel will monitor the tanks and ancillary equipment for signs of leakage, pressure increase, or other hazardous conditions.

3. Landfill

Equipment failure or power outage would have no effect on the operation of the landfill, since the only powered equipment at the landfill are vehicles.

A6.J PREVENTION OF UNDUE PERSONNEL EXPOSURE TO HAZARDOUS WASTES [40 CFR 270.14(b)(8)(v), R 299.9605(1)]

Prevention of undue exposure to hazardous wastes by facility personnel is accomplished by a combination of engineering controls, personal protective equipment, adherence to written Standard Operating Procedures (SOPs), and extensive training in hazard recognition, hazardous materials handling, and hazardous waste operations.

1. Engineering Controls

Facility equipment is designed to minimize exposure of facility personnel to hazardous wastes. Wastes are stored in closed containers and tanks, and bulk waste transfer operations are conducted in closed piping systems which inspected daily for signs of leaks or deterioration. Transfer of containerized wastes to and from the container storage areas is done with the containers closed.

2. Personal Protective Equipment

The only open transfer of wastes is when the contents of a leaking, damaged, or deteriorated container must be transferred to a container in good condition. For such a waste transfer, facility personnel are required to wear personal protective equipment appropriate to the degree and type of hazard presented by the materials being handled. Whenever possible, such a transfer is achieved by pumping the material from one container to the other to minimize the possibility of exposure.

3. Written Standard Operating Procedures (SOPs)

Written SOPs are provided to facility personnel for each type of activity involving potential for exposure to hazardous wastes. These SOPs describe in detail how the activity is to be carried out to ensure operator safety and what type of personal protective equipment is required for the activity. SOPs are reviewed regularly by facility supervisory personnel to ensure they are up to date and accurate. SOPs are also reviewed whenever any incident indicates the need for change in the prescribed procedure.

4. Personnel Training

Facility personnel receive a minimum of 24 hours of initial training in hazardous waste operations and emergency response, including the following elements related to personal protection:

- a. Safety, health and other hazards present at this facility;
- b. Use of personal protective equipment;
- c. Work practices by which personnel can minimize risks from hazards present;
- d. Where to obtain information on the hazardous nature of the wastes managed at the facility.

Detailed information about the facility training program is provided in Module A10, Personnel Training.

A6.K PREVENTION OF RELEASES TO THE ATMOSPHERE [40 CFR 270.14(b)(8)(vi), R 299.9605(1)]

1. Container Storage

Releases to the atmosphere from the container storage area are prevented by the practice of keeping all containers tightly closed except when adding or removing wastes. Containers stored are in good condition and meet all applicable U.S. DOT requirements for the types of material they contain. Gaskets for bungs and lids are in good condition or are replaced, if necessary. These measures prevent releases to the atmosphere during normal storage.

All containers of hazardous waste are stored on pallets and incompatible wastes are segregated into separate rows within the storage area. This prevents the possibility of accidental commingling of incompatible wastes, which could cause a release to the atmosphere by causing a fire, explosion, or uncontrolled reaction. In this manner, releases to the atmosphere are prevented.

2. Tank Storage

All hazardous waste storage tanks are of fixed roof design to control emissions of volatile organic compounds. All six tanks are provided with a nitrogen blanket system to maintain an inert atmosphere within the headspace of the tank to prevent accidental ignition of flammable vapors. The nitrogen blanket system allows each tank to vent only when the internal pressure reaches 6-8 psig. This also effectively prevents emission of volatile organic compounds from the waste methoxysilane and solvent storage tanks because this relief pressure is much higher than the vapor pressure of the wastes stored. Releases to the atmosphere during normal operations are therefore prevented.

Facility tank farm procedures, including the adherence to written SOPs, prevents the commingling to incompatible wastes in the storage tanks, which might otherwise cause a fire, explosion, or uncontrolled reaction leading to a release to the atmosphere.

3. Landfill

No volatile wastes are placed in the landfill, so there can be no emissions of volatile organic compounds to the atmosphere. No reactive or ignitable wastes are placed in the landfill, so there can be no fires, explosions, or uncontrolled reactions which might lead to a release to the atmosphere. Creation of blowing dust by the vehicles moving within the landfill area is prevented by application of water and/or nonhazardous brine solution as needed to the unpaved areas on which the vehicles travel. This effectively prevents release of particulate matter to the atmosphere.

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
- 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
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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 Identification Numbers C11.B.4(a)(1) C11.B.4(a)(2) Applicable Standards C11.B.4(a)(3) Design **Design Analysis** C11.B.4(a)(4) 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 **Identification Numbers** C11.B.4(c)(1) Applicable Standards C11.B.4(c)(2) 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 Design Analysis C11.B.4(d)(4) C11.B.4(e) Flare C11.B.4(e)(1) Identification Numbers Applicable Standards C11.B.4(e)(2) Design C11.B.4(e)(3) Design Analysis C11.B.4(e)(4) C11.B.4(f) Carbon Absorber C11.B.4(f)(1) **Identification Numbers** Applicable Standards C11.B.4(f)(2) C11.B.4(f)(3) Desian 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 Performance Test Plan C11.B.4(h)(2) 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

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Form EQP 5111 Attachment Template C11 Subpart BB General Business

C11.B.4(h)(3)(ii)	Velocity and
	Volumetric Flow Rate
C11.B.4(h)(3)(III)	Organic Compound
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)]
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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 <u>case by casecase-by-case</u> 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

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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

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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 <u>unitcomponent</u>, the instrument probe is traversed around all possible leak interfaces of that <u>unitcomponent</u>, 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.

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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.

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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) C [F	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)]

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- 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)] **Identification Numbers** C11.B.4(d)(1) [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)]

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- 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

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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).

- Each dual mechanical seal system must be:
 - Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
 - Equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device; or
 - Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.
 - The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.
- Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
- Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

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.

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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

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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.

• Monitor monthly by Method 21 for two successive months.

• • • • • • • • • • • • • • • • • • •	Formatted: Indent: Left: 0.5", No bullets or numbering
If no leak is detected for two consecutive months the valve is monitored the first month	
of each successive quarter.	
4	Formatted: List Paragraph, Left, No bullets or numbering
• If a leak is detected, the valve shall be monitored monthly until a leak is not detected	
for two successive months.	
4	Formatted: List Paragraph, Left, No bullets or numbering
Compliance with Option 2, alternative monitoring requirements.	
 After five consecutive quarterly leak detection periods with the percentage of 	
valves leaking equal to or less than 2 percent, an owner or operator an owner	
or operator may begin to monitor annually, instead of quarterly.	
o If the percentage of valves leaking is greater than 2 percent, the owner or	
operator shall revert to monthly monitoring on all valves. After two successive	
months, if the percentage of valves leaking is less than or equal to 2 percent,	
revert back to skip monitoring	Formatted: Font color: Auto
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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.

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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 <u>unit-component</u> 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.

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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 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 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

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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 Sy	stem 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, Subpa	rt VV, or 40 CFR Part 61, Subpart V		
C11.C.6(h)	Documentation	Required for Tanks and Containers Not		
	Using Air Emiss	sion 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	nd Identification of Clean Air Act		
Requiremer	nts			

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

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

X Tanks

 \boxtimes 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 (m³)(26.4 gallons).

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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 m³ 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 m³ 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. <u>Each inspection</u> checklist is signed and dated as a demonstration that each tank is inspected prior to initial storage of hazardous waste streams and annually thereafter.

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)]
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- 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, 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(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)]
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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)]

There are no level 3 containers at the facility.

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

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

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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 m³ (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).

Figure A3-2 Logic Diagram for Disposal of Hazardous Waste

