

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

A403359961

<b>FACILITY:</b> The Dow Chemical Company U.S.A., Midland		<b>SRN / ID:</b> A4033
<b>LOCATION:</b> 1790 Building, MIDLAND		<b>DISTRICT:</b> Bay City
<b>CITY:</b> MIDLAND		<b>COUNTY:</b> MIDLAND
<b>CONTACT:</b> Amanda Karapas , Air Specialist		<b>ACTIVITY DATE:</b> 09/15/2021
<b>STAFF:</b> Kathy Brewer	<b>COMPLIANCE STATUS:</b> Compliance	
<b>SUBJECT:</b> EUB7 (Waste tank farm & control) on site inspection		<b>SOURCE CLASS:</b> MEGASITE
<b>RESOLVED COMPLAINTS:</b>		

**EUB7 was permitted by PTI #678-83A issued in 2004 for the EU32 hazardous waste incineration complex tank farm in the environmental operations plant. Emission group consists of 10 tanks and a carbon adsorption unit for backup control. Several Dow iPark processes can send waste to the tanks.**

**This emission unit is subject to the requirements of 40 CFR Part 63, Subparts A and DD. In addition, by virtue of being subject to Subpart DD, EUB7 is also subject to the equipment leak provisions of the HON (i.e., 40 CFR Part 63, Subpart H). EUB7 is a CAM subject emission unit subject to the requirements of 40 CFR Part 64.**

**Dow has recently determined that EUB7 is subject to 40 CFR Part 64 Compliance Assurance Monitoring. On September 15, 2021 a ROP renewal application was submitted with a EUB7 CAM plan.**

**Zero VOC emissions were reported for 2019 to MAERS.**

**MACT DD reports listed EUB7 operating hours for processes that generated emissions at approximately 4,000 hours per year. The September 2021 MACT DD report listed EUB7 operating/emitting hours as zero.**

**During the pre-inspection September 14, 2021, the process flow diagram, vent locations, control devices and emission calculations were reviewed. During the September 15, 2021 on site visit the ROP required emission control and metering devices, vents, and real time process screens were viewed.**

**At the time of the inspection the facility appeared to be in compliance with the requirements of the EUB7 ROP conditions. CAM applicability and appropriate CAM requirements will be added to the ROP during reissuance.**

### Site Records Review

#### **EU32 Incinerator**

- Vent status
- Kiln Temperature

#### **Carbon Bed**

- Condenser exit gas temperature
- 12 month rolling venting hours

### AQD File Review

#### **MAERS emissions**

**ROP Semi annual Deviation reports March 2020, September 2020, March 2021, Sept 2021**

**MACT Reports Subpart OSWRO March 2019, September 2019, March 2020, Sept 2020, March 2021, September 2021.**

**Description:**

Eight tanks can receive waste material from production and material handling. Tanks 101, 601, and 701 are used for sump and dike water.

The 300 and 400 series tanks and the V-701 tank normally vent to the EU32INCINERATOR. The tank vent line has some capacity to retain tank exhaust. If pressure in the tank vent builds then the valve to the carbon bed opens. The carbon is typically regenerated daily if tanks vent to it. A system notification will occur if a regeneration has not occurred when the carbon bed has received tank vent exhaust for 3 days.

Parameter	ID	Permit based target
Carbon bed temp	TTO1369	NA
Condenser temp exhaust	TTO1358	SC IV.4 <77F during regeneration
Valve to Carbon	ZSC05634	Record open hours
Valve to EU32INCINERATOR	ZSC22402	Record status

The incinerator complex tank farm is Three 300 series tanks have been cleaned and not used for 15 years. Four 400 series tanks have not been used for approximately 18 months. Tank V-701 has not vented to the carbon bed in over 10 years.

Tanks V-101 & V-601 vent to atmosphere.

**EMMISIONS**

Emissions reviewed for 2020 and 2021 are provided below.

Parameter	Aug 2020	November 2020	Jul 2021
VOC 1.2 tpy	0.0 tpy	0. tpy	0.0 tpy

12 month rolling			
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**Material limits**

The ROP does not list any specified material limits.

**Process/Operational limits**

Operating records reviewed are summarized below. Spreadsheet for the time periods are attached.

Parameter	May 5, 2018 1-3 PM	Sept 19, 2019 8-10 AM	Jan 15, 2020 7-9 PM
SC III.1.Hours emissions from tank vent header can vent to carbon bed (876 hours for 12 month rolling)	zero	zero	zero

**Design and Equipment Parameters**

Records reviewed are summarized below. Operation screens for the time periods are attached. When the vent to the EU32 incinerator is open, EUB7 is exhausting to the EU32 incinerator.

Parameter	Record	Sept 7, 2021 (EU32 shut down for maintenance)				
SC IV.1 EU32 vent valve position (ZSC22402)	April 13, 2017 3:30 AM OPEN	CLOSED				
SC IV.1 EUB7 Carbon bed valve position (ZSO05634)	April 13, 2017 3:30 AM CLOSED	CLOSED				
SC IV.2 Carbon bed operating properly when receiving vent	<table border="1"> <thead> <tr> <th>Month-year</th> <th># offloads</th> </tr> </thead> <tbody> <tr> <td>May-18</td> <td>38</td> </tr> </tbody> </table>	Month-year	# offloads	May-18	38	NA
Month-year	# offloads					
May-18	38					

	Sep-19	0	
	Jan-20	6	
	Apr-21	0	
	Annual maintenance is performed on the carbon bed.		
SC IV.3 EU32 operating properly ( EU32 temp TT27101)	April 13, 2017 3:30 AM 1995 F	NA	
SC IV.4 Carbon bed condenser exit gas temperature <77F (TT01369/TT01384)	Aug 1, 2018 11 AM 67.7F During a regeneration	NA	

The tanks have not vented to EUB7 Carbon bed since April 2017. During the inspection EUB7 had no stored waste or activities exhausting to the tank vent header.

**Testing/Sampling**

The ROP does not contain any current testing or sampling requirements. An August 2018 emission test on EU32 Incinerator demonstrated a >95% OHAP destruction rate.

**Monitoring and Recordkeeping**

SC VI.1. Records from May 2018, September 2019, and January 2020 were reviewed. The facility monitored and recorded carbon bed regeneration and tank vent vapor line valve position as required by the ROP .

SC VI.2. Records from April 2017, May 2018, September 2019, January 2020, and April 2021 were reviewed. The facility monitored and recorded the exit gas temperature of the condenser during carbon bed regeneration as required by the ROP .

**Month-year # Regens Comment**

May-18 29

Sep-19 0  
 Jan-20 0  
 Apr-21 0

Based on the position of ZSC01386. If ZSC01386 open, then the carbon bed was steamed and therefore regenerated. Last regen was on 8/29/2018 at 6:40 PM. Since 8/29/2018, the cold tar tanks were isolated from the carbon bed/stack.

The carbon bed exhaust temperature transmitter TETW-1369 was repaired on December 28, 2015. The instrument has not had any calibrations performed. To assure compliance with required carbon bed condenser temperature, monitoring and record keeping requirements, the instrumentation relied upon for monitoring and reporting temperature should be evaluated to determine an appropriate calibrated frequency.

The carbon bed condenser exit gas temperature does have operation alarm at 73.4F, 77F, and 275F that initiate manual response.

SC VI.3. The facility calculated and recorded 12 month rolling VOC emissions monthly as required by the ROP. Emissions are calculated monthly based on loads into the tank farm filling losses are calculated from the throughput. Emissions are reported under the specific emission unit the process was routed to, such that if the tank farm was venting to the 32 incinerator the VOC emissions would be reported in MAERS under 32 Incinerator rather than under EUB7. Since the 32 Incinerator is used more frequently than the Carbon Bed to control emissions from EUB7 the emissions get reported in MAERS as 0 because they are less than 0.01 lbs.

**Stack/Vent Restrictions**

The following vent information was confirmed during the inspection.

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Description
1. SVB7	12	40	Carbon bed vent to atmosphere

**Annual and Semi Annual Title 5 Deviation report review**

An internal audit at Dow determined that the EUB7 emission unit had greater than 100 pre-control emissions and is CAM subject. The facility submitted a CAM plan on September 15, 2021 and included EUB7 as a CAM subject unit in the ROP renewal application.

**OSWRO MACT DD reports**

No excursions, exceedances, deviations, monitoring downtime or leaks associated with EUB7.

NAME Kathy Brewer

DATE 10/28/2021

SUPERVISOR Chris Hare