



Received State of Indiana

6-21
JUL 01 2024

Department of Environmental Management
OFFICE OF AIR QUALITY

W. R. Grace & Co.
5215 Kennedy Ave.
East Chicago, IN 463212

June 21, 2024

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

United States Environmental Protection Agency, Region 5
Air and Radiation Division, Regulation Development Branch, Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

**RE: Notification of Furnace Refurbishment
W.R. Grace & Co
Permit Number 089-45267-00310**

To whom it may concern:

W.R. Grace & CO (W.R. Grace) has an existing operating permit (Permit Number 089-45267-00310) issued November 2, 2022, which governs related air permitting requirements associated with the industrial activities at the East Chicago facility. This permit includes requirements for a Sodium Silicate Furnace identified as EU-01. W.R. Grace is undertaking a refurbishment of the EU-01 Furnace, which is necessary to avoid mechanical failure of the unit.

W.R. Grace is submitting this notification in accordance with Condition B.21 of the Permit, allowing for operational flexibility. The permit allows for certain changes to be made if the conditions of B.21 are met. These conditions include:

- The changes are not modifications under any provision of Title I of the Clean Air Act
 - Modification under Title I is defined as any physical change in, or change in method of operation of, any stationary source which increase the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. Calculations are attached to this letter.
 - This project does not meet the definition of "modification" under Title I.
- Any Preconstruction approval required by 326 IAC 2-7-10.5 has been obtained.
 - Preconstruction approval by way of permit modification is not required, as the IAC allows for repairs to equipment to occur if certain conditions are

met. This project meets the conditions of 10.5 allowing for repairs not requiring a permit modification, particularly when the repair work will prevent mechanical failure.

- The changes do not result in emissions which exceed the limitations provided in the permit.
 - This change is for repairs and refurbishment of the existing unit only. These changes will not result in any increase in emissions, new emissions, or change in operation, and will not result in any exceedance or deviation of a permit limitation.
- Notification is provided to IDEM and EPA.
 - Satisfied by this notification.
- Records related to the change are maintained onsite.
 - The backup records, including this notification and any service and repair records will be maintained onsite for a minimum of five (5) years.

Refurbishment and repair work will include:

- Removal of most of the old refractory structure and replacing it with new refractory.
- Replacing some steel structure as necessary based upon condition.
- Refurbishing the 8 burners with identical parts.

These Furnace repairs will not change methods of operation, will not increase burner capacity, and will not cause an increase in air emissions. Additionally, the unit will return to normal operation after the repair work is completed. This work is tentatively scheduled to be completed in October 2024. If necessary, W.R. Grace can notify IDEM of the date of repair when a more exact date is determined. As mentioned, this work is necessary in order to prevent impending or imminent failure of the furnace. No permit condition or limitation will be impacted as a result of the work.

If any additional information is required related to this work, please contact me to discuss any needs.

Sincerely,



Phineas Andrews
Plant Manager
W.R. Grace & CO
219.391.4601

c.c. Julie Kendall, W.R. Grace
Apple Chapman, W.R. Grace
Steve Funderburk, W.R. Grace
Andrea Foglesong, PROtect, LLC

Actual to Projected Actual Comparison

Sodium Silicate Furnace EU-01

Company Name: W.R. Grace & Co.-Conn.

Company Address: 5212 Kennedy Avenue, East Chicago, IN 46312

Permit Number: 089-45267-00310

Emission factors are from AP-42, Chapter 11-15, Tables 11-15-1, 11-15-2, and 11-15-3, 10-36.

METHODOLOGY

PTE (tons/year) = Maximum Throughput of Mixture (MMCFT/yr) * Emission Factor (lbs/MMCF) * 3780 (hours/year) / 2000 (lbs/ton)

NOx emissions based on heat input

Two year actual look back:

2021 RY 161 MMCFT

2022 RY 158 MMCFT

5 year Estimated Actual:

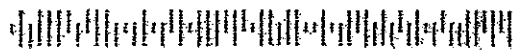
2023-2028 160 MMCFT

Notes: Operational capacity of furnace is maxed out

No increase in capacity is currently planned

PRE-REFURBISHMENT - ACTUALS				
Process	Maximum Throughput of Mixture (MMCFT/yr)	Emission Factor		Past Actuals
		Pollutant	(lbs/MMCF)	(tons/year)
Sodium Silicate Furnace EU 01 Natural Gas	159.5	PM	5.70	0.4546
		PM10	1.90	0.1515
		PM2.5	1.90	0.1515
		SO ₂	0.60	0.0479
		NO _x	1929.55	153.8816
		VOC	5.50	0.4386
		CO	84.00	6.6990
POST-REFURBISHMENT - PREDICTED ACTUALS				
Process	Maximum Throughput of Mixture (MMCFT/yr)	Emission Factor		Future Projected Actuals
		Pollutant	(lbs/ton)	(tons/year)
Sodium Silicate Furnace EU 01 Natural Gas	150	PM	5.70	0.4560
		PM10	1.90	0.1520
		PM2.5	1.90	0.1520
		SO ₂	0.60	0.0480
		NO _x	1929.55	154.3640
		VOC	5.50	0.4400
		CO	84.00	6.7200
NET EMISSIONS CHANGE				
Pollutant	Annual Change (tons/year)	NSR Thresholds (tons/year)	NSR Applies? (Yes/no)	
PM	0.0	25	No	
PM10	0.0	15	No	
PM2.5	0.0	10	No	
SO ₂	0.0	40	No	
NO _x	0.5	40	No	
VOC	0.0	40	No	
CO	0.0	100	No	

Lake County is moderate non-attainment for ozone. Thresholds for NOx and VOC emissions are 40 tpy each.



7019 1640 0000 5266 6649

GRACE

W. R. Grace & Co.
5215 Kennedy Ave.
East Chicago, IN 46321

Retail



46204

RDC 99

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Indiana Department of Environmental Management
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Indianapolis, IN 46204-2251