



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Ardagh Group, Dolton, Illinois

FROM: Emma Leeds, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Ardagh Group (Ardagh)

Facility Location: 13850 Cottage Grove Ave, Dolton, IL 60419

Date of Inspection: 5/18/2023

EPA Inspector(s):

1. Emma Leeds, Environmental Engineer
2. Natalie Topinka, Environmental Engineer

Other Attendees:

1. Jordan Hepler – Environmental Health and Safety Manager
2. Garrett Mickley – Plant Engineer Manager
3. Clinton Cadle – Furnace Manager (during tour)

Contact Email Address: jordan.hepler@ardaghgroup.com

Purpose of Inspection: To investigate compliance with the Clean Air Act, including facility's Title V permit

Facility Type: Glass container manufacturing facility

Regulations Central to Inspection: Nitrogen oxide (NO_x) emission limit for the furnaces of 212.9 tons per year (TPY) and 1.3 pounds per ton of glass produced (lb/ton); 70% control

efficiency of sulfur dioxide (SO₂) for the furnaces; volatile organic compound (VOC) emission limit of 32.7 TPY for the furnaces

Arrival Time: 9:15 AM

Departure Time: 11:15 AM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: not a small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Ardagh personnel unless otherwise noted.

Process Description:

Ardagh manufactures approximately 200 different types of clear glass containers for the food and beverage industry, including jars, bottles, and flasks. Raw materials are received via truck and rail and include soda ash, limestone, sand, dolomite, aplite, salt cake, and cullet (both from an outside glass recycler, and recycled from the facility itself), as well as smaller amounts of carbocite and selenium. Raw materials are unloaded into a pit and conveyed to a bucket elevator that sorts materials into different silos. Materials are then weighed out based on the type of glass requested by the customer, and conveyed by elevator to one of several mixers. After mixing, materials are charged via screw conveyor into one of three natural gas furnaces with electric boost. Molten glass exits the furnace through a spout and is cut into gobs that are then molded into the customer's requested container shape, hot-coated, and sent through the annealing lehr to cool to room temperature.

Emissions from the three furnaces are combined in a common duct and controlled by a catalyst embedded ceramic filter system using ammonia to treat NO_x and lime to treat (SO₂). The ceramic filter system consists of 6 UltraCat Catalytic Filter (UCF) boxes with 400 filters in each box. Dust collectors are used to control particulate matter emissions from the unloading area and the mixers.

Staff Interview: Continuous emissions monitoring (CEM) for NO_x and SO₂ is performed on the furnace exhausts, and relative accuracy test audits (RATAs) are performed annually on the CEM system. VOC and lead emissions are calculated using emission factors developed from tests performed at Ardagh's glass facility in Medina, California.

The furnaces are rebuilt every 15 years after the brick is worn down and too thin to continue efficiently operating. Furnace 1 was last rebuilt in 2017, Furnace 2 was last rebuilt in 2015, and Furnace 3 was last rebuilt in 2013. Furnace rebuilding takes approximately 60 days. Hot bottom repairs (meaning the furnace is not shut down) were performed on Furnace 2 in December 2022 and Furnace 1 in July 2022.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

EPA first observed the furnace control room and spoke to the furnace manager, Clinton Cadle, who demonstrated how and where operators monitor for NO_x and SO₂, and how airflow is controlled within the furnace. EPA then moved outside and observed the catalytic filter system, which can operate with 5 UCF boxes but typically runs all 6. The filters can last for 8 – 10 years but are inspected three times a week for broken filters.

Photos and/or Videos: were taken during the inspection.
See Appendix A.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Air Emission Reports from 2019 – 2022
- Spreadsheets used to calculate air emissions from 2019 - 2022
- Most recent stack test reports for furnaces
- Emission factor development reports from Medina, CA facility
- Production records form 2019 – 2022
- Maintenance logs for dust collector and UCF filters

DIGITAL SIGNATURES

Report Author: **EMMA LEEDS**  Digitally signed by EMMA LEEDS
Date: 2023.07.14 06:59:23 -05'00'

Section Supervisor: **Chatfield, Ethan**  Digitally signed by Chatfield, Ethan
Date: 2023.07.17 08:24:45 -05'00'

APPENDICES AND ATTACHMENTS

- 1.* Appendix A – Digital Image Log

Facility Name: Ardagh Group
Facility Location: 13850 Cottage Grove Ave, Dolton, IL
Date of Inspection: May 18, 2023

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Emma Leeds	2. Archival Record Location: USEPA Region 5 Electronic Records Center
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Image Number	File Name	Date and Time (CT)	Description of Image
1	IMG_1502.JPG	2023:05:18 10:32:36	Raw material silos
2	IMG_1503.JPG	2023:05:18 10:34:10	Raw material unloading
3	IMG_1504.JPG	2023:05:18 10:36:29	UCF filter boxes for ceramic filter
4	IMG_1505.JPG	2023:05:18 10:45:00	Molten glass molding into containers
5	IMG_1506.JPG	2023:05:18 10:45:06	Error - accidental photo
6	IMG_1507.JPG	2023:05:18 10:49:52	Inside furnace