



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

DATE: OCT 04 2018
SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Firestone Polymers
FROM: Gregory Gehrig, Environmental Engineer
AECAB (MI/WI)
THRU: Sarah Marshall, Section Chief
AECAB (MI/WI)
TO: File

BASIC INFORMATION

Facility Name: Firestone Polymers

Facility Location: 381 West Wilbeth Road, Akron, OH

Date of Inspection: September 19, 2018

Lead Inspector: Gregory Gehrig, Environmental Engineer

Other Attendees: Kenneth Ruffatto, Cary Secrest, U.S. EPA;
Bill Hawks, Manager, Safety & Health and Kevin Culligan, Environmental Engineer, Firestone Polymers

Contact Email: bhawks@firestonepolymers.com

Purpose of Inspection: CAA Compliance

Facility Type: Synthetic rubber manufacturing pilot plant

Regulations Central to Inspection: SIP, NSPS and MACT

Arrival Time: 1000 hrs

Departure Time: 1210 hrs

Inspection Type:

☒ Unannounced Inspection

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☐ Announced Inspection

OPENING CONFERENCE

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from facility personnel.

Company Ownership: Same ownership since at least 2013.

Process Description:

Firestone Polymers (Firestone) manufactures synthetic rubber using butadiene, styrene and hexane in two batch processes and also in two continuous processes. Small amounts of additives are also added at various points in the process. Butadiene and hexane are received via rail car, off loaded and held in tanks. Tank areas have hydrocarbon detectors for safety purposes. Styrene is used in lower quantities and is received and held in totes. This is a pilot plant and formulations and exact process conditions are changed frequently to produce synthetic rubber with different properties. Carbon black is only used on a laboratory scale at this facility. The facility was down for annual planned maintenance at the time of inspection. No processes were running and no emissions were being vented to the flare. Firestone typically operates 24 hours per day Monday to Thursday (production days), and Friday is a maintenance day.

The facility uses a single flare to control emissions. Emissions of butadiene, styrene and hexane are generated during the transfer of materials via pressure differential, including rail car off-loading. Flaring is not continuous and vent gas is routed to the flare approx. 1 hour per operating day. The flare is typically non-assist, but has the capability to be assisted with steam. This steam assist capability was installed after a butadiene emergency venting event with significant visible emissions (VE) in 2013. No steam has ever been used to assist combustion. There is an opacity camera for the flare and control logic to add steam based on the camera's observations, although it wasn't working at the time of the inspection and hasn't been operational for some time. Facility personnel are aware it isn't working, but are confident steam could be added manually if ever needed. Vent gas and steam flows are not measured. Heating value of the vent gas was determined by a performance test. The processes leading to and including the flare header are swept with approx. 45 scfh of nitrogen. Relief valves vent to the flare, but have rupture plates ahead of the valves, both of which are checked regularly. Venting to the flare is recorded in electronic log books.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:

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The production areas, including the reactors, storage areas, and the flare were visited on the facility tour. At the time of inspection, the facility was not in production. Photos were taken.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

No records were reviewed during the inspection.

CLOSING CONFERENCE

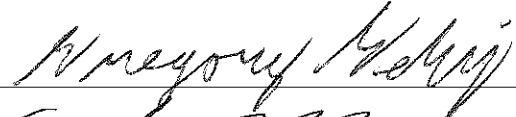
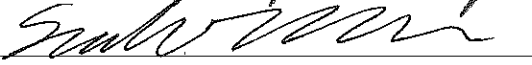
Requested documents (to be sent via email):

- Photos, collected by U.S. EPA on Firestone's intrinsically safe camera and emailed to G. Gehrig same day.
- Specifications on the flare, including O&M manuals, design drawings and operating procedures.
- A summary of recent preventative maintenance activities on the flare.
- Any recommendations by consultant/manufacture with respect to flare performance, including in response to the 2013 smoking event.
- Performance test results for flare vent gas heating value determination.
- Summary of venting to the flare for the past 12 months.

Compliance Assistance: None.

Concerns: None noted at inspection.

SIGNATURES

Lead Inspector:  Date: 10-3-18
Section Chief:  Date: 10/4/18

Facility Name: Firestone Polymers

Facility Location: 381 West Wilbreth Road, Akron, OH

Date of Inspection: September 19, 2018

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Gregory Gehrig	2. Date(s) of Inspection: September 19, 2018
3. Company/Facility Name: Firestone Polymers	4. Street Address, City, State: 381 West Wilbeth Road, Akron, OH
5. Number of Images: 6	6. Archival Record Location: CD-R labeled Firestone Images 9.19.2018

Image name	Time (CDT)	Description
IMG_20000914_233554	1135	Continuous reactors
IMG_20000914_234600	1140	Nitrogen purge inlet
IMG_20000914_234611	1141	Hydrocarbon detector in tank area
IMG_20000914_235221	1143	Flare at distance
IMG_20000915_000509	1148	Flare, closer view
IMG_20000915_000902	1150	Header at base of flare

Note: Images collected by G. Gehrig with Firestone's intrinsically safe camera and emailed to U.S. EPA.
Times are approximate as photos not taken with U.S. EPA camera.