



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
AIR AND RADIATION DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 3 2014

MEMORANDUM

SUBJECT: Inspection of S.H. Bell Company, Chicago, Illinois

FROM: Molly Smith, Environmental Scientist *MS*
Air Enforcement and Compliance Assurance Branch (MI/WI section)

Katie Owens, Environmental Engineer
Air Enforcement and Compliance Assurance Branch (MI/WI section)

THRU: Sarah Marshall, Chief *SM*
Air Enforcement and Compliance Assurance Branch (MI/WI section)

TO: Files

Date of Inspection: April 25, 2014

U.S. EPA Representatives: Molly Smith, Environmental Scientist
Katie Owens, Environmental Engineer

Facility Representative: James (Jim) M. Langbehn, Terminal Manager
Kim Pesenko, AMEC Environmental & Infrastructure, Inc.
Joseph N. Kotas, Environmental Protection Engineer, Illinois
Environmental Protection Agency

Company Description: S.H. Bell Company
10218 South Avenue O
Chicago, Illinois 60617

Primary Contact: Jim Langbehn
Contact Information: 773-633-8698

Purpose of Inspection: To learn what the facility does, evaluate whether it is subject to Clean Air Act regulations, and assess whether further investigation is needed.

Background: EPA is focusing on community outreach and addressing community concerns in the SE Chicago geographic area. This site is located in southeast Chicago where fugitive dust is an issue identified by the community.

Entry Procedures: We arrived at the site office building at 10:45 am and presented our enforcement credentials to the staff, who contacted the Terminal Manager, Jim Langbehn. Mr. Langbehn escorted us to a conference room.

Initial Interview Information: The inspection team was informed that S.H. Bell Company (S.H. Bell) had been the owners of the facility for at least thirty years and currently employed twenty-eight full-time staff. Mr. Langbehn has worked at S.H. Bell since 2006. The facility runs from 7:00 am to 3:00 pm, five days a week. The facility has a seven acre footprint.

S.H. Bell is a bulk material storage handler. S.H. Bell receives bulk material via truck, rail, and barge. The facility unloads and stores the bulk material until a client purchases the material and sends either a truck or railcar to pick it up. S.H. Bell occasionally processes the material by crushing larger pieces to smaller pieces or screening out larger pieces of material. S.H. Bell also has the capabilities to mix materials according to customer specifications.

According to the Terminal Manager, the facility's main sources of fugitive emissions are the crushing and screening operations, and all loading and unloading operations. Loading and unloading operations are done for trucks, rail and barges at the facility.

Over 90% of all materials received and processed by S.H. Bell's rail line are manganese based alloys. The facility's main operations are bulk loading and storage. A majority of the facility's bulk materials are stored indoors, as the materials cannot be exposed to rain. The facility has the capability to handle the following products:

- Ferro Alloys
- DRI (direct reduced iron)
- Frac Sand
- Pig Iron
- Silicon Carbide
- Silicon Metal
- Fluorspar
- Primary Metals (zinc, aluminum, lead, tin, copper and nickel)
- Manganese
- Specialty Alloys
- Refractory products
- Scrap Metal
- Minerals
- Steel (pipe, billets, bars, coils, slabs)
- Fertilizer
- Limestone

S.H. Bell receives seven to eight barges of material deliveries a month. Approximately 25-30% of material received come in super sacks, the rest are bulk materials. S.H. Bell processes around

forty truck-loads of material in the plant each day, equating to five inbound and thirty-five outbound material deliveries. Over 90% of the materials leave the S.H. Bell facility via truck and are delivered to the local steel mills or foundries. S.H. Bell does limited rail car unloading, performing about five per year. S.H. Bell loads approximately one to two rail cars each month. There are two barge unloading areas onsite with a third site available if S.H. Bell is granted a variance from the Chicago Department of Public Health. S. H. Bell has ninety indoor bins and twenty outdoor storage bins/areas.

Occasionally the bulk material is packaged in super sacks, verses just bulk loaded into the truck bed. In order to package bulk material into super sacks, S.H. Bell has two packaging areas each controlled with a baghouse. Neither baghouse has been recently tested. Baghouses are only operated during active packaging operations. The second, smaller packaging operation, does not have a Magnehelic gage on its baghouse.

In order to control fugitive dust on the site, S.H. Bell has a water truck that is used to soak the pavement and outdoor piles. Water is pulled directly from the Calumet River. According to Mr. Langbehn, the facility uses its water truck in the morning, and then around 3:00 pm a contractor's water truck wets the property. Mr. Langbehn stated that the water truck was purchased last week. S.H. Bell also tests the moisture in the outdoor bulk storage piles once a week. If the moisture content is low, S.H. Bell will re-wet the piles. There was no recorded moisture content below the required threshold.

Facility Walkthrough: Inspectors requested a tour of the facility. The inspectors began the tour at the barge unloading operations in the north east portion of S.H. Bell's property. Though S.H. Bell was unloading from the barge the day of the inspection, all operations stopped during the time of our inspection due to lunch. Ferro silica was being unloaded the day of the inspection. Mr. Langbehn stated that barges take one to two days to unload.

Next, the inspectors walked through several buildings onsite to observe S.H. Bell's indoor storage. Mr. Langbehn stated that S.H. Bell recently constructed another building to allow for additional storage of packaged products. When the inspectors asked if S.H. Bell has had steady business recently, Mr. Langbehn stated that S.H. Bell had high inventory in December but currently has low inventory following a six week shutdown.

The tour also included walking to S.H. Bell's outdoor storage areas, passing the crusher/screener. It was noted that the crusher/screener had plastic flaps at loading points on the building to allow dust control and access during loading operations. It was also noted that several plastic flaps were missing and damaged during the time of the inspection. Mr. Langbehn stated that S.H. Bell uses a dust suppressant on the crusher/screener which consists of a water and foam mixture.

During the tour, inspectors noted dust blowing from a pile of direct reduced iron (DRI). Inspectors commented on the dust to Mr. Langbehn, who acknowledged the pile was creating dust and needed to be watered again. Mr. Kotas took opacity readings following our observation of large, opaque dust plumes coming off the piles of DRI. Inspectors also noted dust being generated from truck traffic around 12:45 pm.

Inspectors were not able to see the crushing or screening operation in use. The facility was only loading and unloading bulk materials during the site tour.

The tour ended at 12:48 pm.

Closing Interview: Inspectors requested a copy of the differential pressure ranges the manufacturers of the facility's two baghouses recommend. Inspectors also reviewed emission factors used by the facility to calculate fugitive emissions from the facility. Mr. Langbehn stated that S.H. Bell is required to install air monitors which will be installed soon.

S.H. Bell did not request to claim any information as confidential during the time of the inspection.

The inspectors left the facility at 1:13 pm.

Materials Requested:

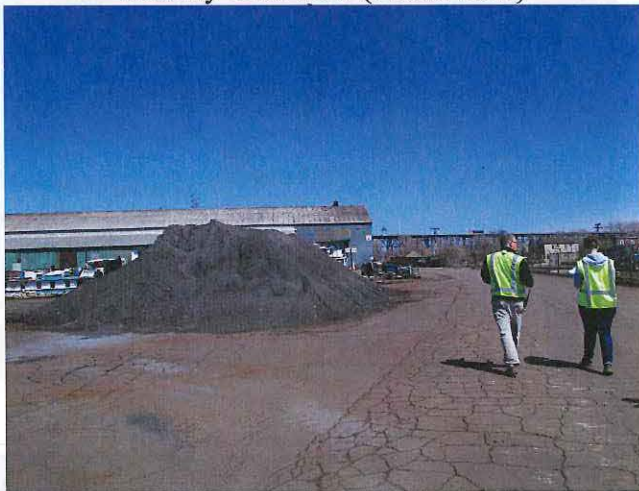
- Summary of any stack test conducted at the facility
- Any baghouse maintenance records
- State of Illinois Annual Emissions Inventory
- Map of water spray application area
- Facility map
- List of materials stored or processed at the facility

Attachment: Pictures April 25, 2014

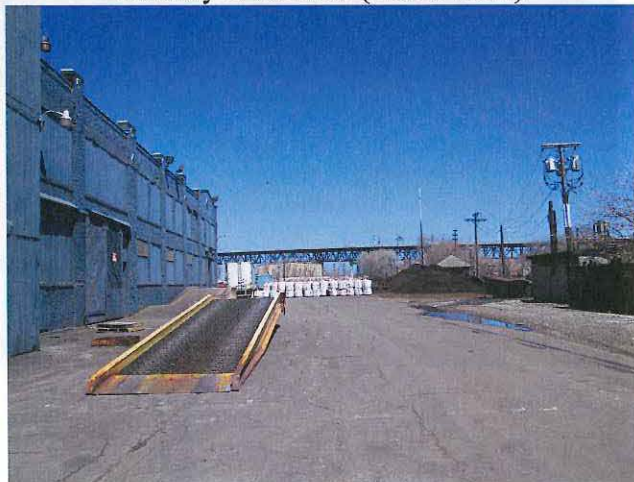
Facility Overview (West view)



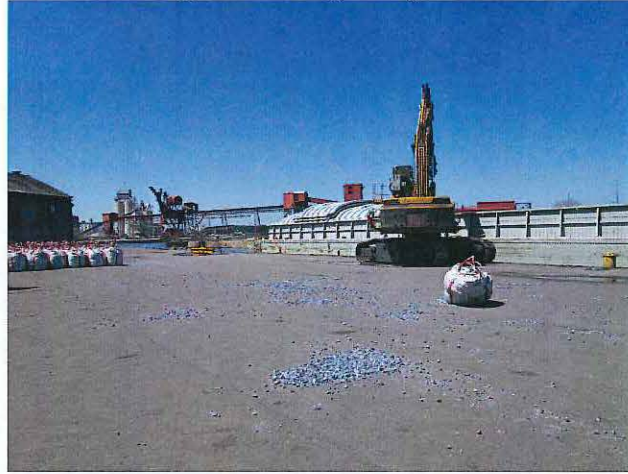
Facility Overview (North view)



Facility Overview (North view)



Barge unloading – super sack



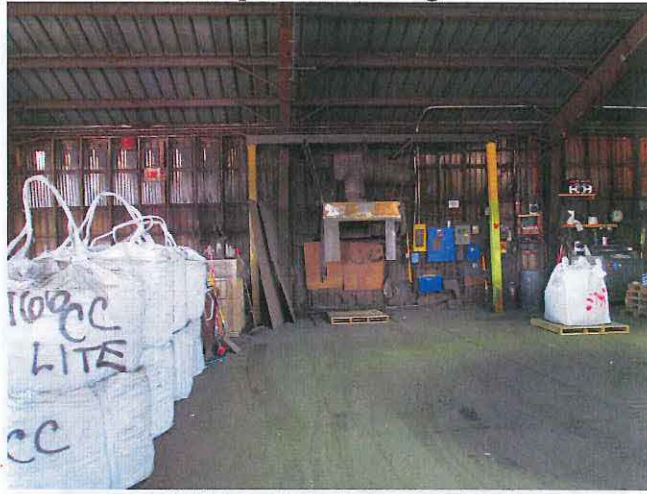
Barge unloading – super sack



Super Sack Storage



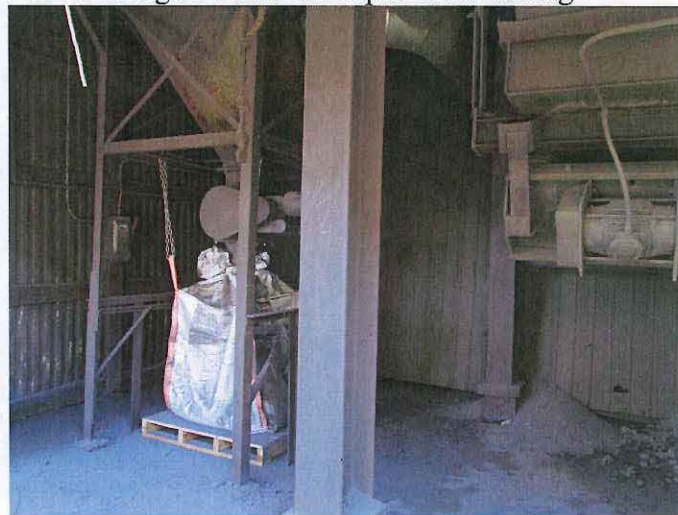
Super Sack Storage



Dust on roadways



Baghouse #1 for super sack loading



Baghouse #2 for super sack loading



Super sack storage



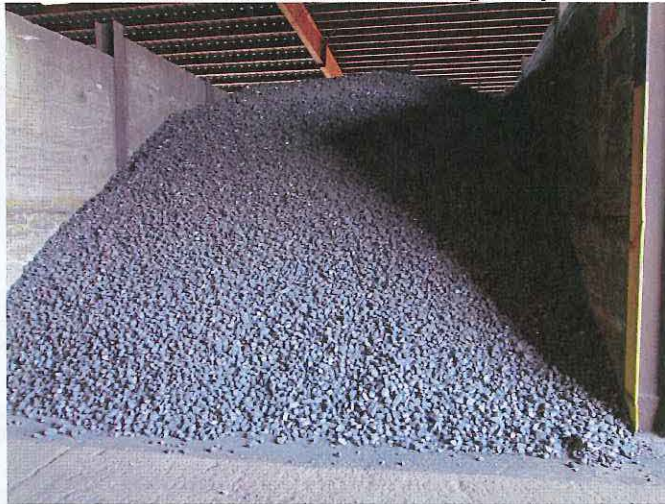
Salt Storage Bay



Indoor Bulk Material Storage



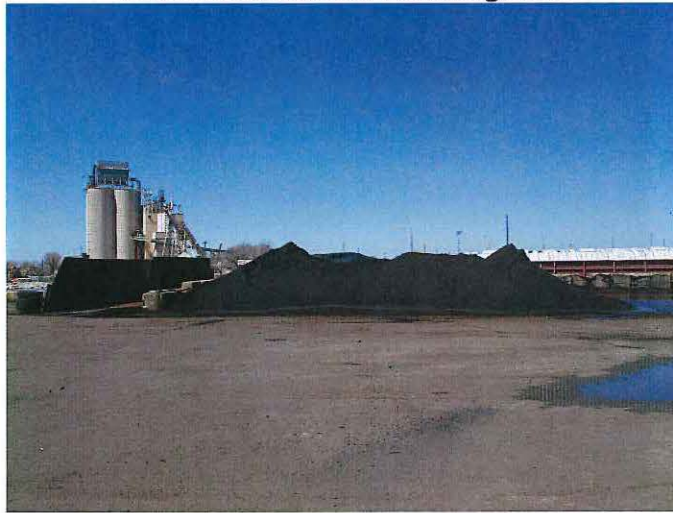
Indoor Bulk Material Storage Bay



Indoor Bulk Material Storage Bay



Outdoor Bulk Material Storage Pile



Outdoor Bulk Material Storage Pile



Entrance to Crusher/Screening Building



Opening on Crusher/Screenener Building



Outdoor Bulk Material Storage Pile



Outdoor Bulk Material Storage Pile

