

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

A585858327

FACILITY: Mead Johnson & Company, LLC	SRN / ID: A5858
LOCATION: 725 E. Main Street, ZEELAND	DISTRICT: Grand Rapids
CITY: ZEELAND	COUNTY: OTTAWA
CONTACT: Matt Kwiatkowski , EHS Associate Manager	ACTIVITY DATE: 05/12/2021
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance
SUBJECT: Announced, scheduled Full Compliance Evaluation.	SOURCE CLASS: MAJOR
RESOLVED COMPLAINTS:	

Air Quality Division staff April Lazzaro arrived on site at 9:30 AM and met with Matt Kwiatkowski, EHS Associate Manager and Chris Mc Andrew, EHS Associate Manager. The purpose of the inspection was to determine compliance with the components of Renewable Operating Permit (ROP) MI-ROP-A5858-2017b. This was an announced, scheduled inspection due to the COVID-19 pandemic. Proper PPE was utilized, and social distancing was conducted to the extent possible. No odors or visible emissions were identified during off-site observations of the facility.

FACILITY DESCRIPTION

Mead Johnson & Company manufactures powdered milk products for infants and seniors including products for people with special nutritional or medical needs. The manufacturing operations consist of combining and drying raw materials, which are then blended with vitamins and minerals before being weighed and packaged. The facility has many sources of particulate controlled by either baghouses, rotoclones or wet scrubbers. Additionally, there is one emission unit that is a major source of Hazardous Air Pollutants. There are two boilers installed in 1960 which were upgraded in 1994 to utilize low NOx burners. This change is not considered a modification pursuant to NSPS. A third boiler was installed in 2012 and is fired solely on natural gas. The stationary source is subject to the Maximum Achievable Control Technology Standards as applicable, Subpart ZZZZ for Reciprocating Internal Combustion Engine with compliance deadlines of 2012 and more recently Subpart DDDDD for Industrial Commercial and Institutional Boilers and Process Heaters. The digest process condenser and knock out pot and 2 spray dryer baghouses are also subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM). The CAM requirements have been incorporated into the ROP. On-site wastewater treatment equipment pre-treats wastewater prior to being sent to the municipality for final treatment.

COMPLIANCE EVALUATION

Mead Johnson has prepared and implemented a comprehensive Malfunction Abatement Plan (MAP) for the facility. An updated MAP was requested as part of this compliance inspection and will be placed in the file. Additionally, most PM sources utilize broken bag detectors which will set off an alarm if particulate is in the exhaust stream. This allows for early identification and correction of any issues. Several emission units are required to implement non-certified visible emissions observations if the broken bag detectors are inoperable. I requested data on any time

that the broken bag detectors were inoperable and therefore visible emissions readings were taken. The facility stated that there have been no times where an emission unit was not equipped with a properly functioning broken bag detector.

EUBOWEN-DRYER

This process consists of equipment used to take a liquid product and atomize it into a hot air stream to evaporate all moisture. The emission limit is to be verified by testing if deemed necessary, and maintenance. A minimum water flow of 18 gpm on the wet scrubber is required. Monthly records of the flow meter reading were requested (attached), and the values indicate compliance. There were no observed stack changes.

EUDIGEST-TANKS

Emissions records were requested and provided by Mr. Kwiatkowski via e-mail timely. No issues were identified at EUDIGEST-TANKS and there were no observed stack changes. The condenser and associated equipment preventative maintenance is being conducted properly. Calibration information for the condenser flow switch and knock out pot level switch were provided. The condenser low flow switch was calibrated on 3/16/2021 and the toluene knockout pot level switch was calibrated on 2/16/2021.

The emission limit of Volatile Organic Compound (VOC) from vents V1-V5 and V7-V9 is 181.7 pounds per 24-hour period commencing each calendar day at 12:00 AM and 33.2 tons per 12-month rolling time period. Reported daily emissions of VOC from vents V1-V5 and V7-V9 for the time period of May 2020-April 2021 are 91.0 pounds. The 12-month rolling emissions of VOC through April 2021 for vents V1 through V5 are 16.74 tons. These values indicate compliance.

The emission limit of VOC from the steam ejector stack is 96.4 lbs per 24-hour period commencing each calendar day at 12:00 AM and 8.8 tons per 12-month rolling time period. Reported daily emissions of VOC from the steam ejector stack for the time periods chosen was a maximum of 38.65 pounds (1/18/2021) and the 12-month rolling time period through April 2021 was 2.13 tons. The condenser and knock out pot were not in operation at the time of the inspection; however, a visual inspection was conducted with no obvious deficiencies identified. This emission unit is subject to CAM for VOC control, and all monitoring is being conducted to meet the requirements and facility staff have historically reported an occasional excursion, but no exceedances.

The dry handling component of this emission unit is equipped with a rotoclone wet scrubber. The rotoclone wet scrubber shall maintain a minimum water pressure of 23 psi during operation and was operating at 90 psi at the time of the inspection. No particulate matter was observed on the roof.

EUZSP-VIT-WEIGH

This process consists of a scale where dry materials are transferred into containers and weighed. The emission limit is to be verified by testing if deemed necessary, and maintenance. The EU was not in operation at the time of the inspection. All required preventative maintenance is being conducted properly. The most recent

calibration of the broken bag detector took place on 5/12/2020. There were no observed stack changes.

EULIQUIFIER-TANK

This process consists of mixing tanks with associated rotoclone control equipment. Required preventative maintenance is being conducted properly. The rotoclone wet scrubber shall maintain a minimum water pressure of 23 psi during operation. The rotoclones wet scrubber was not operating at the time of the inspection. The emission limit is to be verified by testing if deemed necessary, and maintenance. Monthly records of the flow meter reading were requested (attached), and the values indicate compliance. February 2021 preventative maintenance activity was conducted while the rotoclones scrubber was operating. Water flow was recorded at 2.55 gpm and the water pressure was recorded at 62 psi. There were no observed stack changes.

EUZSP-LIQ-PROCESS

This process consists of equipment used for liquefying and mixing dry powdered materials. The rotoclone wet scrubber shall maintain a minimum water flow of 1.5 gpm during operation. A review of 2021 flow rates provided by the company indicate the flow ranges between 1.51 gpm and 2.57 gpm. The emission limit is to be verified by testing if deemed necessary, and maintenance. The most recent calibration of the water flow transmitter took place on 10/07/2020. There were no observed stack changes.

EUZSP-SPRAY-DRYER

This process consists of a natural gas fired heater and spray drying operations with associated cleaning and processes product made in EUDIGEST-TANKS. VOC is limited to 1.8 tpy per 12-month rolling time period, and 167 lbs of sodium hydroxide per wash cleaning cycle. Reported VOC emissions through April 2021 are 439 pounds (0.22 tons) and the highest sodium hydroxide per wash use was 152 lbs. The emission limit is to be verified by testing if deemed necessary, emissions recordkeeping and maintenance. There were no observed stack changes. A deviation was reported following a fabric filter malfunction on this unit. The broken bag detector caught the issue immediately, and appropriate corrective action was taken.

FGNS-DRYER-HTRS

This flexible group consists of two identical natural gas fired heaters used to supply hot air to the north and south spray dryers. Only natural gas is burned in the heaters, while not operating during the inspection, no opacity has been observed in the past. There were also no observed stack changes. These units are subject to 40 CFR 63 Subpart DDDDD as process heaters. An initial notification report was received on May 28, 2013. The dryers are subject to an opacity limit for which compliance is expected while burning only natural gas fuel.

FGBOILERS

The flexible group consists of three boilers. Two Erie Co. boilers can burn either natural gas or fuel oil. The facility has removed the related fuel oil tanks and

associated piping from the area. While the internal fuel firing components are still present, the unit could be considered disabled for fuel oil use, however the company will continue to keep fuel oil as a back-up option. The third boiler, burns solely natural gas and was manufactured by Cleaver Brooks, installed in 2012 and is subject to 40 CFR 63 Subpart DDDDD. An initial notification report was received on May 28, 2013 and an initial boiler tune-up compliance report was received on January 31, 2014. The company is aware of the energy efficiency report that is required, and it has been completed. Boiler #3 is also subject to NSPS Dc, and the initial notification form was received on October 18, 2012.

The most recent burner inspection and tune-up for Boiler #1 occurred on October 14, 2020. The most recent burner inspection and tune-up for Boiler #2 occurred on November 28, 2020. The most recent burner inspection and tune-up for Boiler #3 occurred on November 4, 2020.

Daily and monthly records were requested and received timely. (see attached) The facility is maintaining daily emissions and fuel use on a per day, per boiler basis which is correct. The emission limit for SO₂ is limited to 88 tpy on a 12-month rolling basis. Current reported 12-month rolling emissions through April 2021 are 0.06 tons from natural gas use. NO_x 12-month rolling emissions are limited to 66.2 tpy. Current reported emissions through April 2021 are 4.64 tons. There are other emission limits that apply only when firing fuel oil, and therefore data was not requested. Preventative maintenance for all three boilers is being conducted as required and all three operate routinely for reliability purposes.

FGZSP-BLEND-FILL

This flexible group contains three emission units, two of which mix powdered ingredients and one that sifts powdered ingredients. All stacks and broken bag detectors were observed, no problems were identified. The emission limit is to be verified by testing if deemed necessary, and maintenance. The most recent calibration of the broken bag detector (EUN-POWDER-BLEND, EUS-POWDER-BLEND and EUZSP-FILL-LINE) occurred on 7/27/2020 for all three units. There were no observed stack changes.

FGZIPP-PMSOURCES

This flexible group contains five emission units with three baghouses in which dry ingredients are transferred, mixed and placed into containers. The stacks and broken bag detectors were observed, no problems were identified. The most recent calibration of the broken bag detectors for each of the three baghouses occurred on 7/27/2020. The emission limit is to be verified by testing if deemed necessary, and maintenance. There were no observed stack changes.

FGNS-DRYERS

This flexible group contains two emission units where liquid product is atomized into a hot air stream evaporating all moisture from which dried product is collected. Both stacks and broken bag detectors were observed, no problems were identified. Due to the large size of the units, there are two broken bag detectors on each emission unit. The most recent calibration of the EUN-DRYER broken bag detectors was 5/27/2020 and the EUS-DRYER was 6/1/2020. CAM monitoring did not indicate any excursions or exceedances for the units during the last reporting period and no

issues were observed during the inspection. The emission limit is to be verified by testing if deemed necessary, and maintenance. There were no observed stack changes.

FGDRY-POWDER

This flexible group contains two emission units that consist of two dry powder blending process and associated pneumatic powder transfer systems. The most recent calibration of both of the EUDRY-POWDER1 broken bag detector occurred on 8/26/2020 and the EUDRY-POWDER2 bag detector occurred on 6/24/2020. The broken bag detector calibration on EUDRY-POWDER1a occurred on 06/24/2020.

FGGAS1HEATMACT

This flexible group contains five emission units that fit in two different size categories. EUZSP-SPRAY-DRYER is in the equal to or less than 5 MMBtu/hr category and EUBOILERNO1, EUBOILERNO2, EUS-DRYER-HEATER, EUN-DRYER-HEATER are all in the equal to or less than 10 MMBtu/hr category. Data is being reported to both AQD and EPA through the CEDRI reporting system. A review of information indicates that they are submitting biennial reports pursuant to 40 CFR 63.7550.

EUZSP-SPRAY-DRYER is required to have a burner inspection and tune-up a minimum of once every two years. The most recent burner inspection and tune-up occurred on November 30, 2020.

EUBOILERNO1 and EUBOILERNO2 are required to have a burner inspection and tune-up annually. As previously indicated these occurred on October 14, 2020 and November 28, 2020 respectively.

EUS-DRYER-HEATER and EUN-DRYER-HEATER are required to have a burner inspection and tune-up a minimum of once every five years. These occurred on September 14, 2020.

FGNEWBOILMACT

This flexible group contains EUBOILERNO3 that is in the gas 1 subcategory, and only burns natural gas. This boiler is required to have a burner inspection and tune-up a minimum of once every five years. As previously indicated this occurred on November 4, 2020

FGCI-RICEMACT

This flexible group contains conditions that apply to a diesel fired fire pump. This unit has been confirmed to be equipped with a non-resettable hour meter. The facility maintains compliance thorough required oil and filter changes annually.

FGSI-RICEMACT

This flexible group contains three emission units, EUNG-GENERATOR, EUPROP-GENERATOR and EUNG2-GENERATOR. Each unit has been confirmed to be equipped with a non-resettable hour meter. The facility maintains compliance through required oil and filter changes annually.

FGRULE 290

This flexible group currently contains eight (8) emission units. Records are overall maintained under the one-time demonstration for the exemption. Each Rule 290 emission unit that emits particulate matter is equipped with broken bag detectors installed for particulate matter monitoring.

FGCOLDCLEANERS

There are two existing cold cleaners. The facility maintains the AQD required postings.

EVALUATION SUMMARY

During the closing conference, I informed Mr. Kwiatkowski and Mr. Mc Andrew that no compliance issues were identified during the on-site evaluation. Following records review and completion of the FCE, the facility is considered in compliance at this time.

NAME April Lazzaro

DATE 07/12/2021

SUPERVISOR HH