



REGION 3

PHILADELPHIA, PA 19103

Report Title: Clean Water Act Compliance Inspection Report
Inspection Date: 12/5/2023
Regulatory Program: National Pollutant Discharge Elimination System (NPDES)
Type of Activity: Industrial Stormwater
Facility Name: Armstrong World Industries - Innovation Center/Corp Campus
Permittee: Armstrong World Industries
Facility Owner/Operator: Armstrong World Industries
Facility Address: 2500 Columbia Ave Bldg 701, Lancaster, PA 17603
Latitude and Longitude: 40.0618 N, -76.3696 W
Permit No.: PAR323509
NPDES Permit Effective Date: 3/24/2023
NPDES Permit Expiration Date: 3/23/2028
SIC code: 2493

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TABLE OF CONTENTS

I.	INTRODUCTION	3
A.	Inspection Opening Conference.....	3
B.	Weather and Precipitation.....	3
C.	Summary of the Facility	4
II.	OBSERVATIONS	4
III.	CLOSING CONFERENCE.....	9

List of Attachments:

- Attachment A: Permit Authorization Letter (9/30/2016)
- Attachment B: NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity (PAG-03)
- Attachment C: Photograph Log
- Attachment D: Spill Prevention Response Plan
- Attachment E: Map of Facility Conveyances
- Attachment F: Training Records
- Attachment G: Routine Inspections (2023)
- Attachment H: 2022 Annual Report
- Attachment I: Monitoring Results (2022 & 2023)

I. INTRODUCTION

On December 5, 2023, representatives from EPA Region 3 and a representative of the Pennsylvania Department of Environmental Protection (“PADEP”), hereinafter, collectively referred to as “the Inspection Team”, arrived at the Armstrong World Industries facility (hereinafter, “the Facility”) in Lancaster, PA. The purpose of the inspection was to observe compliance with the Clean Water Act (“CWA”) and to verify compliance with the Facility’s coverage under Pennsylvania’s National Pollutant Discharge Elimination System (“NPDES”) General Permit for Discharges of Stormwater Associated with Industrial Activity (PAG-03) NPDES Permit No. PAR323509 (hereinafter, the “Permit”) and applicable State and Federal regulations.

A. Inspection Opening Conference

The Inspection Team arrived at the Facility at approximately 10:50 AM (EST) for the inspection and met with Facility representatives and displayed credentials to Facility representatives. The inspection involved the following people:

Table 1: Inspection Attendee List

Name	Affiliation	Telephone	Email
EPA Region III Inspectors			
Chuck Schadel, Inspector	USEPA Region 3	215 814 -5761	Schadel.chuck@epa.gov
Dominic Cotton, Inspector	USEPA Region 3	215-814-2046	Cotton.dominic@epa.gov
Facility Representatives			
Lauren Deasy, Project Manager	Armstrong World Industries	717 396-2641	Ledeasy@armstrongceilings.com
Adam Torborg, Operations Manager (CBRE)	Armstrong World Industries	717 396-5874	ATorborg@armstrongceilings.com

Mr. Chuck Schadel displayed his credentials to the Facility Representatives at the outset of the inspection, and explained the purpose of the inspection was to observe compliance with its Permit. A copy of the Permit is provided in Attachment B. The EPA Inspection Team informed the Facility Representatives that any information that the Facility deemed to be confidential business information (“CBI”) should be identified to EPA representatives during the inspection and it would be handled as CBI according to EPA’s CBI procedures.

B. Weather and Precipitation

At the time of the inspection, the weather was partly cloudy skies with a maximum temperature of approximately 41 degrees Fahrenheit; no precipitation was experienced during the inspection. National Oceanic and Atmospheric Administration (NOAA) National Weather Service precipitation data for the date of the inspection and five days prior are provided in the Table 2 below.

Table. 2 Precipitation Preceding Inspection¹

Station Name	Date	Precipitation Amount (inches) ²
Lancaster Airport, PA US USW00054737	11/30/2023	0.00
Lancaster Airport, PA US USW00054737	12/1/2023	0.18
Lancaster Airport, PA US USW00054737	12/2/2023	0.02
Lancaster Airport, PA US USW00054737	12/3/2023	0.42
Lancaster Airport, PA US USW00054737	12/4/2023	0.00

C. Summary of the Facility

Armstrong World Industries, Inc. ("AWI") manufactures ceiling and wall system solutions. AWI's Campus occupies approximately 621 acres of land located to the west of the City of Lancaster, Pennsylvania. The Campus is located along Route 462 (Columbia Avenue) and is in Manor Township, Lancaster County. Construction of the Campus started in 1950, with operations commencing in 1952.

The Campus is a diversified operation incorporating AWI's Product Development, Manufacturing Support, Engineering, and Product Styling and Design (PS&D) functions, along with the Corporate Data Center and Retail Development Center. This location also serves as the Corporate Headquarters. Product Development, i.e., Research and Development (R&D), has numerous research laboratories and pilot plant lines reflecting the many and varied processes employed throughout the company divisions. In addition, there is a library and maintenance facility.

Industrial operations at the Facility include mixing and blending of materials, coating, etc. The materials used on site include inorganic fillers, organic coatings, solvents, water-based additives, and inks.

Stormwater is discharged to a tributary of the Little Conestoga Creek, under General Permit No. PAR323509.

II. OBSERVATIONS

As part of the inspection, the Inspection Team visually observed Facility conditions and documented those conditions through photographs.

The photographs (Attachment C – Photo Log) for this report have been processed using EPA Region 3 's Photo Management Process. A file name which incorporates the date and time the photo was taken (e.g., 2023-12-05--11.26.42), as well as the original camera generated file name (e.g., DSCN3883) is assigned to each photo as part of the processing. The file names generated by the camera are used to identify each photo in the main narrative and the Photo Log of this inspection report. Unused photos are digitally stored and maintained in the inspection file. Unused photos are available upon request.

The following section presents the Inspection Team's observations relative to the Facility's Permit requirements.

¹ Source: NOAA National Climatic Data Center (<http://www.ncdc.noaa.gov/>).

Permit Requirement

PART C - SPECIAL CONDITIONS

II. BMPs APPLICABLE TO ALL PERMITTEES

“Permittee shall implement and, as necessary, maintain the following BMPs to remain in compliance with this General Permit.

...

D. Pollution Prevention and Exposure Minimization.

The permittee shall minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff in order to minimize pollutant discharges by either locating industrial materials and activities inside or protecting them with storm resistant coverings, unless determined by the permittee to be infeasible. The permittee shall implement and maintain the following measures:

1. Use grading, berming, or curbing to prevent runoff of polluted stormwater and divert run-on away from areas that contain or have the potential to generate polluted stormwater.

...

E. Good Housekeeping.

The permittee shall perform good housekeeping measures in order to minimize pollutant discharges including the routine implementation of the following measures, at a minimum:

1. Implement a routine cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust or debris may accumulate to minimize the discharge of pollutants in stormwater. The cleaning and maintenance program must encompass, as appropriate, areas where material loading and unloading, storage, handling and processing occur.

...”

And

PART C - SPECIAL CONDITIONS,

IV. PREPAREDNESS, PREVENTION, AND CONTINGENCY (PPC) PLAN

“A. The permittee shall develop and implement a PPC Plan in accordance with 25 Pa. Code § 91.34 following the guidance contained in DEP’s “Guidelines for the Development and Implementation of Environmental Emergency Response Plans” (DEP ID 400-2200-001), its NPDES-specific addendum, and the minimum requirements below.

...

2. The PPC Plan must describe preventative measures and BMPs that will be implemented to reduce or eliminate pollutants from coming into contact with stormwater as a result of routine site activities and spills.”

Observation #1:

Stormwater at the Facility appears to flow through the stormwater management structure (identified in Photos 3890, 3894, and 3898) which provides settling of pollutants and volume control through settling and vegetative filtration/uptake.

**PART C - SPECIAL CONDITIONS,
IV. PREPAREDNESS, PREVENTION, AND CONTINGENCY (PPC) PLAN**

- B. The permittee shall review and, if necessary, update the PPC Plan on an annual basis, at a minimum, and when one or more of the following occur:

...

The permittee shall maintain all PPC Plan updates on-site, make the updates available to DEP upon request, and document the updates in the Annual Report.”

Observation #2:

The Facility’s Spill Prevention Response Plan (Attachment D) is dated June 8, 2020 and states “This combined emergency response plan meets the requirements for a Preparedness, Prevention, and Contingency Plan (PPC) as specified by 25 PA Code Ch. 262a, 264a, 265a, 26a6 and EPA 40 CFR Part 262 and 264, and the requirements for a Spill Prevention Control, and Countermeasure (SPCC) Plan pursuant to EPA Regulations on Oil Pollution Prevention (40 CFR Part 112). It also satisfies EPA and DEP requirements (40 CFR Part 122, 125 and PA Code Chapters 91-97, 101, 102, 105) for a Stormwater Pollution Prevention Plan (SWPPP).”

Observation #3:

The EPA Inspection Team observed areas at the Facility where materials associated with industrial activity are handled and/or stored (Photos DSCN3883 to DSCN3885, DSCN3900, DSCN3902, DSCN3903 and DSCN3905). The EPA Inspection Team did not observe any leaks of staining. The EPA Inspection Team observed that salt may be exposed to precipitation at times (Photo DSCN3899).

Observation #4

The EPA Inspection Team observed a stormwater management structure (Photos DSCN3890, 3894 and 3898) that provides treatment by detention and vegetative filtration.

Permit Requirement

PART C - SPECIAL CONDITIONS (Floor Drains)

II. BMPs APPLICABLE TO ALL PERMITTEES

“Permittee shall implement and, as necessary, maintain the following BMPs to remain in compliance with this General Permit...

...

- E. Pollution Prevention and Exposure Minimization.

4. Eliminate floor drain connections to storm sewers.”

Observation #5:

The EPA Inspection Team observed several floor drains inside Building 5 (Photos DSCN3886, DSCN3888 and DSCN3889). The Facility provided a map of the Facility conveyances (Attachment E). Based on review of the map, all floor drains in Building 5 at the Facility drain to the sanitary line.

Permit Requirement

PART C - SPECIAL CONDITIONS (Training)

II. BMPs APPLICABLE TO ALL PERMITTEES

“Permittee shall implement and, as necessary, maintain the following BMPs to remain in compliance with this General Permit...

...

D. Pollution Prevention and Exposure Minimization.

...

11. Train employees routinely (no less than annually) on pollution prevention practices as contained in the PPC Plan.”

Observation #6:

The Facility provided a table showing staff who received training in 2022 and 2023 titled “Campus Stormwater and Environmental Safety Awareness 2022 v.1” and “Campus Stormwater and Environmental Safety Awareness 2023 v.1” (ATTACHMENT F – TRAINING RECORDS).

Permit Requirement

PART C - SPECIAL CONDITIONS

III. ROUTINE INSPECTIONS

“A. The permittee shall visually inspect the following areas and BMPs on a semiannual basis (calendar periods), at a minimum:

1. Areas where industrial materials or activities are exposed to stormwater.
2. Areas identified in the Preparedness, Prevention and Contingency (PPC) Plan required in Part C IV as potential pollutant sources.
3. Areas where spills or leaks have occurred in the past three years.
4. Stormwater outfalls and locations where authorized non-stormwater discharges may commingle with stormwater discharges.
5. Physical BMPs used to comply with this General Permit.

At least once each calendar year, the routine inspection must be conducted during a storm event that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previous measurable (greater than 0.1 inch rainfall) storm event, when a stormwater discharge is occurring.”

Observation #7:

The Facility conducted routine inspections on 6/12/2023 and on 11/21/2023 (ATTACHMENT G.1 & G.2 - ROUTINE INSPECTIONS). The dates and observations are included in the attachment. Both routine inspection forms indicate that the routine inspection was conducted during a storm event.

Permit Requirement

PART A

III. SELF-MONITORING, REPORTING AND RECORDKEEPING

C. Other Reporting Requirements and Annual NOI Installment Fee

1. Annual Report
 - a. The permittee shall submit the first complete Annual Report to the Clean Water Program of the DEP office that issued the approval of General Permit coverage by May 1, 2023 using DEP’s PAG-03 Annual Report template (3800-PM-BCW0083h). Thereafter, the permittee shall submit

Annual Reports to DEP by March 23 for each remaining year of General Permit coverage. The Annual Report shall address activities under the General Permit for the previous calendar year. If the permittee discharges to a municipal separate storm sewer system (MS4), a copy of the Annual Report shall be submitted to the operator of the MS4.”

And

PART C - SPECIAL CONDITIONS

III. ROUTINE INSPECTIONS

“B. The permittee shall evaluate and document the following conditions, at a minimum, in the Annual Report required by Part A III.C.1 of this General Permit:

1. Raw materials, products (intermediate, in-process, or final) or wastes that may have or could come into contact with stormwater
2. Leaks or spills from equipment, drums, tanks, and other containers.
3. Off-site tracking of industrial or waste materials, or sediment where vehicles enter or exit the site.
4. Tracking or blowing of raw, intermediate, or final products or waste materials from areas of no exposure to exposed areas.
5. Control measures or BMPs needing replacement, maintenance, or repair.
6. The presence of authorized non-stormwater discharges that were not identified in the NOI and non-stormwater discharges not authorized by this General Permit.”

Observation #8:

The Facility completed their 2022 Annual Report covering 1/1/2022-12/31/2022, which was signed on 5/1/2023 (ATTACHMENT H - ANNUAL REPORT).

Permit Requirement

PART C - SPECIAL CONDITIONS

V. STORMWATER MONITORING REQUIREMENTS

“A. The permittee shall conduct monitoring of its stormwater discharges at the representative outfalls identified in the NOI in accordance with this section and the sector-specific appendix or appendices specified on page 1 of this General Permit. Outfalls identified as “No Exposure Outfalls” in the NOI do not require monitoring unless the no exposure condition changes during the term of coverage under this General Permit, at which time monitoring must commence. The permittee shall document stormwater sampling event information for each calendar year on the Annual Report required by Part A III.C.1.”

ATTACHMENT A - PERMIT AUTHORIZATION reads: “Based on the Standard Industrial Classification (SIC) Code that DEP has on file for your facility, DEP believes that you will need to comply with the monitoring requirements and Best Management Practices (BMPs) contained in Appendix S.”

APPENDIX S

I. APPLICABILITY

The requirements in Appendix S apply to stormwater discharges associated with industrial activity from Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries as identified by the following SIC Codes: 3011, 3021, 3052, 3053, 3061, 3069, 3081 – 3089, 3931, 3942 – 3949, 3951, 3953, 3954, 3955, 3961, 3965, and 3991 – 3999. Other facilities may be required to comply with this appendix if notified by DEP in writing.

II. MONITORING REQUIREMENTS

The permittee must monitor and report analytical results for the pollutants listed below on Discharge Monitoring Reports (DMRs) for representative outfalls, subject to footnotes provided. The benchmark values listed below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two or more consecutive monitoring periods, the permittee shall take action in accordance with Part C V.I of this General Permit.

Pollutant	Monitoring Requirements ^{(1),(2)}		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L) ⁽³⁾	1 / 6 months	Calculation	XXX
Total Phosphorus (mg/L)	1 / 6 months	Grab	XXX
pH (S.U.)	1 / 6 months	Grab	9.0
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100
Total Zinc (mg/L)	1 / 6 months	Grab	XXX

PART C - SPECIAL CONDITIONS

V. STORMWATER MONITORING REQUIREMENTS

- I. In the event that stormwater discharge concentrations for any pollutant in the sector-specific appendices exceed the benchmark values identified in those appendices at the same outfall for two or more consecutive monitoring periods, the permittee shall implement the following, based on the number of consecutive exceedances identified:
 1. After **two or more** consecutive exceedances of benchmark values (starting on the effective date of this General Permit), develop a corrective action plan (CAP) to reduce the concentrations of the pollutants in stormwater discharges. Failure to submit and implement a CAP constitutes non-compliance."

Observation #9

The Facility provided sampling results for 2022 and 2023 (ATTACHMENT I.1 – 4, MONITORING). Based on review of ATTACHMENT I.1 -4, the monitoring data provided appears to address most of the requirements of this section of the Permit and indicates that Benchmark levels were not exceeded in 2 consecutive monitoring periods at this time. Although information was provided for multiple parameters not required to be monitored, information pertaining to monitoring the parameter pH was not provided on all of the lab results sheets. The dates for monitoring are provided with the information in the attachment. Stormwater monitoring is conducted at Outfall 001 (Photo DSCN3906).

	6/22/2022	11/11/2022	6/12/2023	11/21/2023
Total Nitrogen	Not tested	5.2 mg/L	Not tested	Not tested
Total Phosphorus	Not tested	1.5 mg/L (as P) 4.7 mg/L (as PO4)	0.32 mg/L (as P)	0.54 mg/L (as P)
pH	8.63	7.02	Unknown	Unknown
Total Suspended Solids (TSS)	2.5 mg/L	6.2 mg/L	53 mg/L	19 mg/L
Total Zinc	0.23 mg/L	0.31 mg/L	1.4 mg/L	0.31 mg/L

Total Nitrogen and Total Phosphorus were not monitoring requirements in Appendix S of PAG-03 prior to March 24, 2023.

The lab results from 6/12/2023 and 11/21/2023 do not include pH, and include Total Kjeldahl Nitrogen and Nitrate Nitrite as N but do not include Total N (Attachment I.3 and I.4).

III. CLOSING CONFERENCE

At the conclusion of the field inspection, the EPA Inspection Team conducted a closing conference with Facility representatives and shared preliminary observations. The EPA Inspection Team reiterated to the representatives that all preliminary observations discussed were not compliance determinations. Preliminary observations shared with the representatives are subject to further investigation by EPA, including additional review of records and documentation. As a result, additional observations may be contained in this inspection report that were not identified at the time of the closing conference.

The inspection concluded at approximately 12:45 PM (EDT).