Georgia-Pacific Gypsum LLC (51611)

Date: 4/24/2019

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 180001

Description of Modifications: The Camden Plant is a major stationary source under the Part 70 (Title V) Major Source Operating program administered by the New Jersey Department of Environmental Protection (NJDEP) Division of Air Quality promulgated under New Jersey Administrative Code (N.J.A.C) Title 7, Chapter 27, Subchapter 22 (Operating Permits). NJDEP last issued the Air Pollution Control Operating Permit to the Camden Plant on July 24, 2018 (Permit Activity No. BOP180001), with an expiration date of July 27, 2020. N.J.A.C. 7:27-22.30(c) requires submittal of a renewal permit application at least twelve (12) months prior to but encourages the applicant to submit the renewal application at least fifteen (15) months prior to expiration of the current permit so NJDEP can notify the applicant of any deficiencies with the application. This application is being submitted more than 15 months in advance of the expiration date.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Georgia-Pacific Gypsum LLC

Facility ID (AIMS): 51611

Street Address: 1101 SOUTH FRONT ST
CAMDEN, NJ 08103

Mailing Address: 1101 SOUTH FRONT ST
CAMDEN, NJ 08103

State Plane Coordinates:

X-Coordinate:	1,869,725
Y-Coordinate:	400,039
Units:	Feet
Datum:	Unknown
Source Org.:	Other/Unknown
Source Type:	Hard Copy Map

County: Camden

Location Description: Lat/Long: 39,55,52/75,07,49

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	327420

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

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Org. Type: LLC
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NJ EIN:
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Contact Type: Fees/Billing Contact

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Camden, NJ 08103

Contact Type: Responsible Official

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Org. Type: LLC
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Other: ( ) - x
Type:
Email: robert.christensen@gapac.com
Mailing Address: 1101 South Front Street
Camden, NJ 08103

New Jersey Department of Environmental Protection
Facility Profile (Permitting)

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	Yes
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	No
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	Yes
8. Have you submitted a netting analysis?	No
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	
12. Have you provided, or are you planning to provide air contaminant modeling?	No

Georgia-Pacific Gypsum LLC
Camden, NJ Plant

Permit Activity No. BOP180001

Program Interest No. 51611

1101 South Front Street

Camden, New Jersey 08103 (Camden County)

Title V Operating Permit Renewal Application

Submitted to the
New Jersey Department of Environmental Protection
Division of Air Quality
~~**May 2019**~~ **Revised: November 2019**

TABLE OF CONTENTS

1. PERMIT APPLICATION SUMMARY

Georgia-Pacific Gypsum LLC (GP Gypsum) owns and operates a gypsum manufacturing plant in Camden, New Jersey (referred to as the "Camden Plant"). GP Gypsum's Camden Plant is categorized under the North American Industry Classification System (NAICS) No. 327420 and Standard Industrial Classification (SIC) Code 3275 for Gypsum Product Manufacturing.as an integrated facility in which gypsum plasters, gypsum specialty wallboard products are manufactured for sale to a variety of customers, although wallboard production is currently idled. The Camden Plant also produces a floor underlayment product called Soundmat, using a polypropylene resin extrusion process. The resin extrusion process is categorized under the NAICS No. 326199 and SIC Code No. 3089 for "Plastics Products, Not Elsewhere Classified". The Camden Plant also operates a reload center where gypsum wallboard manufactured by other GP Plants is shipped via rail and is reloaded to flatbed trucks for regional distribution.

GP Gypsum leases certain process equipment at the Camden Plant to GP Industrial Plasters LLC ("GP Plasters"), which conducts the gypsum plaster operations. GP Gypsum and GP Plasters both operate pursuant to Title V Operating Permit Activity Number BOP180001, issued by the New Jersey Department of Environmental Protection (NJDEP) on July 24, 2018, with an expiration date of July 27, 2020.

The Camden Plant is a major stationary source under the Part 70 (Title V) Major Source Operating program administered by the New Jersey Department of Environmental Protection (NJDEP) Division of Air Quality promulgated under New Jersey Administrative Code (N.J.A.C) Title 7, Chapter 27, Subchapter 22 (Operating Permits). NJDEP last issued the Air Pollution Control Operating Permit to the Camden Plant on July 24, 2018 (Permit Activity No. BOP180001), with an expiration date of July 27, 2020. N.J.A.C. 7:27-22.30(c) requires submittal of a renewal permit application at least twelve (12) months prior to but encourages the applicant to submit the renewal application at least fifteen (15) months prior to expiration of the current permit so NJDEP can notify the applicant of any deficiencies with the application. This application is being submitted more than 12 months in advance of the expiration date.

1.1 FACILITY LOCATION

The Camden Plant is located in Camden County, approximately 1.0 mile west of Route 676 at 1101 South Front Street (Block 213, Lots 13 & 29). The facility is adjacent to the Delaware River. The approximate State Plane Coordinates (X,Y) are 1,869,725 feet (ft.) and 400,039 ft. The Camden Plant location is shown on a United States Geological Survey 7.5-minute series quadrangle map of the area and is provided in Attachment A to this application. An electronic copy of a plot plan of the facility is also provided in Attachment A.

On May 21, 2012, the U.S. Environmental Protection Agency (EPA) designated the entire state of New Jersey as nonattainment for the 0.075 parts-per-million (ppm) 8-hour ozone National Ambient Air Quality Standard (NAAQS). On October 26, 2015, the United States Environmental Protection Agency (US EPA) again revised the 8-hour ozone NAAQS. The primary and secondary 8-hour ozone standards were lowered from 0.075 ppm to 0.070 ppm. On September 29, 2016, New Jersey submitted recommendations for designating nonattainment

areas for the 2015 ozone standard to the USEPA.[1] Designations for Camden County are attainment or unclassifiable for all other criteria pollutants.

1.2 REQUEST FOR PERMIT APPLICATION SHIELD

Section 503(d) of the Clean Air Act (CAA) provides that once a timely and complete application for an operating permit has been filed, the applicant is shielded from enforcement action for operating without a permit until the permit has been issued or other action has been taken on the application. N.J.A.C 7:27-22.7 establishes this application shield for sources required to obtain and renew a major source operating permit in New Jersey. Upon submission of an administratively complete renewal application by the deadline, the Camden Plant understands 7:27-22.17 provides protection afforded by the application shield beginning the date the application is due to NJDEP. Because GP is submitting the complete Part 70 renewal application more than 12 months prior to the July 27, 2020 permit expiration date, the Camden Plant is authorized to continue operating under the current Title V permit if the current Part 70 operating permit expires before a renewal permit is issued by the NJDEP.

1.3 REQUEST FOR PERMIT SHIELD

Section 504(f) of the CAA authorizes the permitting authority to provide a "permit shield" whereby compliance with a Part 70 operating permit shall be deemed compliance with all underlying applicable requirements. NJDEP has provided for such a permit shield in N.J.A.C 7:27-22.17. Per N.J.A.C 7:27-22.16(p), GP may request a permit shield for specific provision(s) of potentially applicable requirement(s) that do not apply to the facility, cite any such specific provision(s), and state that compliance with the provision(s) is not required. GP requests a permit shield in accordance with these provisions

1.4 PERMIT APPLICATION CONTENTS

This application for a renewal Part 70 operating permit includes the following elements:

- Section 2 describes the process operations and emission units
- Section 3 details the emissions calculation methodology used to estimate emissions.
- Section 4 contains a regulatory applicability analysis and a summary of the applicable requirements.
- Section 5 contains the compliance determination and schedule for future compliance certifications.
- Attachment A includes a building layout map, general area map, and facility site map.
- ~~Attachment B contains process flow diagrams for the facility operations~~
- Attachment C summarizes GP's requested changes to conditions in the existing Title V permit.
- Attachment D provides detailed emission calculations
- Attachment E contains a summary of Compliance Assurance Monitoring (CAM) applicability.
- Attachment F contains the Department's 7:27-18 Netting Analysis.

[1] From NJDEP Bureau of Evaluation and Planning Website https://www.state.nj.us/dep/baqp/aas.html

- Attachment G contains the Revised Title V Fugitive PM Management Plan Monthly Inspection Checklist

2. PROCESS DESCRIPTION

2.1 CURRENT PROCESS

The following paragraphs discuss the gypsum plasters and gypsum specialty wallboard products manufacturing & polypropylene extrusion processes at the Camden Plant. ~~Attachment B contains Process Flow Diagrams with emission unit (U), equipment (E), control device (CD), and emission point (PT) designations for each emission source. Process flow diagrams have been updated to reflect the current operation and are included in Attachment B to this application.~~

2.1.1 Rock Delivery, Crushing & Conveying

The major raw material utilized by the Camden Plant is gypsum rock. Material is transported to the Camden Plant via truck and is stockpiled onsite prior to being loaded into feed hoppers. The Camden Plant is also capable of using recycled gypsum wallboard as a rock substitute that is stored in a separate stockpile. The outdoor storage pile (FG2) can hold approximately 100,000 tons of rock, but routinely holds 50,000 tons or less. A front-end loader drops gypsum rock from the storage pile onto an underground bar feeder and crumb belt that feeds an underground conveyor (E107 – #7 Belt) leading to an aboveground conveyor (E108 – #8 Belt) where recyclable wallboard material can be added via the Steele Feeder (E40) and Reclaim Conveyor (E104). The material is then dropped into the Wobbler Separator (E111) that in turn feeds the Gyratory Crusher (E110) where it is reduced in size for the next step of the process. The aboveground conveyor (E108 – #8 Belt) can also divert material to the Rotary Rock Dryer (E11), a gas/oil fired unit that is designed to reduce the free moisture content of incoming rock. A series of conveyors (E13, E65, E12) transfer the dried material to the Wobbler Separator. The Rock Dryer and associated conveyors are controlled by one common Dust Collector (CD5). The crushed and sized material from the Gyratory Crusher is conveyed via #9 Belt (E109) and #10 Belt (E121) to #11 Belt. #11 Belt is reversible and transfers material into both Rock Storage Bin 1 (E45) and Rock Storage Bin 2 (E46). Recyclable wallboard material may be added to the process at #9 Belt via the Reclaim Conveyor (E104).

2.1.2 Grinding & Landplaster Production

Material to be processed in Raymond Mill #1 (E24) is stored in and transferred from Rock Bin 1. Material to be processed in Raymond Mill #2 is stored in and transferred from Rock Bin 2. The transfer point from the belts to the bins is directed into the Blender and Packer Dust Collector (CD26). The milling operation begins with a shaker tray that discharges gypsum from the bins and into the star feeders of the respective Raymond Mills. Differential pressure through a process classifier cyclone drives the demand for heat input on the burner and whizzer (feed) speed to move material through the mill, and again reduce free-moisture of the rock. The exhaust of each process classifier cyclone and burner is vented through a Raymond Mill #1 and #2 Dust Collector (CD16 and CD18). Following grinding, material is now considered landplaster (LP). Screw conveyors transfer material to LP Bins #1 (E27), #2 (E28), #3 (E29), and/or the LP Bin #4 (E14) and the Accelerator Bin (E48). LP Bins #1-3 feed to the kettles, described below. LP Bin #4 can feed, via screw conveyor, the LP Loading Spout (E38) positioned outside for the bulk loading of open-top LP Trucks. The spout is double-walled so that displaced dust is captured by a booster fan and transferred to the LP Bin #4 Dust Collector (CD6). This product is sold as a finished

product.

2.1.3 Calcining & Stucco Production

The stucco conversion process begins when LP is fed from a storage bin to a kettle calciner to undergo the calcining process. Calcining is the process of heating gypsum to remove chemically bound water (dehydration of calcium sulfate). The Camden Plant has three kettle calciners; Kettle #1 (E3), Kettle # 2 (E4) and Kettle #3 (E5) that are supplied by three storage bins; LP Bin #1 (E27), LP Bin #2 (E28), and LP Bin #3 (E29). Each LP Bin exhausts to a dust collector (CD20, CD21, CD22, respectively) from displaced air as the bins are loaded with material. Kettle #1 is a batch process Kettle, that produces one 10-ton batches of stucco. Kettle #3 is a continuous process kettle that is constantly fed from the LP Bin and constantly produces calcined stucco material. Kettle #2 can operate as a batch process unit or as a continuous process unit, depending on demand. PM emissions from each Kettle are controlled by the respective Kettle Dust Collector (CD1, CD2, CD3). Stucco is transferred from the kettles to Hot Pits #1, #2, #3 where the stucco is allowed to cool before being transferred further in the process. The kettles may eject any "burnt" material to the floor or to the Reject Bin (E75) for recycling/reclaiming. The Hot Pits and remaining stucco manufacturing equipment exhaust combines and is controlled by the Stucco Cooling Dust Collector (CD24). Screw conveyors and bucket elevators move stucco from the Hot Pits through a Barrel Separator (E106) that filters paper waste from the stucco with a bypass option to Stucco Reserve Bin #1 (E22) and Stucco Reserve Bin #2 (E51). Stucco from the Stucco Reserve Bins is sent through the Bulk Stucco Handling Screener (E58) to filter paper waste before it is sent to the Bulk Stucco Loading Spout (E71) positioned outside for the bulk loading of closed-top stucco trucks. The spout is double-walled so that displaced dust is captured by a booster fan and transferred to the Dust Collector (C24). This product is sold as fireproofing material.

2.1.4 Milling & Plaster Production

The Plaster conversion process begins with batch Kettle stucco material from Kettle #1 or Kettle #2. Stucco is transported through screw conveyors and the Impact Mill Bin Feed Elevator (E60) to the Impact Mill Feed Bin (E52) which stores material to be discharged to the Impact Mill Rotary Screen (E50) where larger material is screened out of the material stream. Material is then transferred through screw conveyors to Impact Mill #1 (E49) and Impact Mill #2 (E70). Size reduction of stucco generates plaster, also known as molding plaster. Molding Plaster Bin Elevator (E61) transports material to be stored in the Molding Plaster Bin (E30). This product can be sold as is or can be further processed.

2.1.5 Blending & Gypcrete Production

Gypcrete is a floor underlayment product. The manufacturing of the product begins with the blending of raw materials. Molding plaster, Portland cement, Densite® and various additives are supplied by the Molding Plaster Bin (E30) and screw, the Portland Cement Bin (E26) and Densite® Bin (E42) to the Bulk Plaster Blender (E44) for each batch of gypcrete manufactured. PM emissions from each raw material bin are controlled by a bin vent (CD23, CD19 and CD25 respectively). An operator supplies the remaining raw materials manually to an entry point on the blender. In some cases, the shipment or storage process causes lumps to form in raw material bags. The Delumper (E114) processes bulk material to restore the original uniformity in material

size. Following blending, the 1-ton batch is packed into 50-pound bags by Bag Packer #1 (E43) and Bag Packer #2 (E102) for palletization and sale to offsite customers. Dust is controlled for this system by the Blender/Packer Dust Collector (CD26) which is housed at the beginning of the process (above the Rock Bins). Portland cement is received by tanker truck (FG1) and blown into the Portland Cement Bin. Densite® is received by railcar, pressurized, and blown to the Densite® Bin.

2.1.6 Wallboard Process Description

Currently, wallboard manufacturing is inactive at the Camden Plant. Per Administrative Consent Order (ACO) NEA090002-51611, the Board Dryer (U7) cannot restart until NJDEP has approved a request for modification. For completeness, a description of the wallboard manufacturing process is included below. Several pieces of equipment associated with wallboard manufacturing have been removed from the Camden Plant and would need to be replaced before wallboard manufacturing operations could resume. Emission units that have been removed from the Camden Plant are mentioned below in the process description.

LP made in the Raymond Mills is stored in the Accelerator Bin (E48). LP is pneumatically conveyed to the Board Plant LP Bin (IS15) to be fed into four Ball Mills (E53-E56). If the LP free moisture is not within specifications, the Norlig feeder adds a dry additive Norlig, an anit-clumping agent. The Balls Mills reduce the size of the LP to create ball mill additive (BMA). Currently, three (Nos. 2, 3 and 4) of the four Ball Mills have been removed from the Camden Plant and the fourth Ball Mill is inoperable. As part of this application, GP is requesting that Ball Mills Nos. 1 through 4 be removed from the Title V permit.

Stucco from the continuous kettles (Kettle #2 or #3) is conveyed via the 441 Screw Conveyor (E21) to the two Board Plant Stucco Silos (E19 & E20). Drag chains are used to move material out of the Board Plant Stucco Silos to the Stucco Supply and Recirculating Elevators (E15 and E16). Stucco is then sent through the Scalping Screw (E66) and Weigh Belt Feeder (E67) to the Stucco Mixing Screw Conveyor (E18) and on to the Pin Mixer (U23, E23). The Stucco Supply and Recirculating Elevators (E15 and E16) are no longer in use at the plant. As part of this application, GP is requesting that these two elevators be removed from the Title V permit.

Retarder (IS18), Dispersant (IS10), Soap (U8), and Emulsion (IS18) are delivered by tanker truck and pumped to their respective receiving tanks. Siliconate and Siloxane are received as liquids in tote tanks. These additives, plus water, are fed directly to the Pin Mixer (E23). Fugitive PM emissions generated by adding these raw materials into the Pin Mixer are controlled by the Mixer Dust Collector (CD14). Additional dry material in Super Sacks or 55 lb. bags are fed to the Dry Additives Bucket Elevator (E59) and are ultimately fed to their respective storage bins (IS15). All dry additives, including BMA made in the Ball Mills, are transported to the Pin Mixer via the Stucco Mixing Screw Conveyor (E18). The Pin Mixer has been removed from the Camden Plant and would need to be replaced upon re-startup of the Board Line manufacturing operations

The wet slurry created in the Pin Mixer flows in between a face and back substrate to form the continuous line of wallboard. The date code/UL labels are printed at the Wet End Print Station (E63). Paper warmers (IS7 & IS8) allow old and new substrate paper rolls to be spliced for

continuous operation. PM emissions from the paper rolls are controlled by the Wet End Central Vacuum System (E68, CD35). At the forming station where the slurry meets the paper, a mechanical process forms the edges of the board.

The board continues to cure as it traverses belt conveyors. Prior to entering the Board Dryer (E7), the wallboard may be coated using a Curtain Coater (E101) that applies a thin layer of paint on the board. Wallboard travels along the length of the line to the knife point, which rotates and cuts each piece of board to the proper length, then transfers to go back the opposite direction to the infeed of the Board Dryer. Three heating zones collectively evaporate the remaining free moisture and solidify the board for desired end use.

The cured board from the Dryer is considered to be in the Take-Off section which enters the Hooker Booker housing. This housing encloses the area for booking (stacking) of the board product. PM emissions generated from the booking process are controlled by the Dry End Central Vacuum System (E69, CD36). Next, the Board End Saw (E10) trims the wallboard to its final length. The dust generated from cutting the end of the stacks with the Board End Saw is controlled by the End Saw Dust Collector (CD4) and the bundles (two boards) are stacked into a lift (1 sales unit). Wallboard can also be used for riser dunnage production, using the Board End Saws for special cuts. At this time barcode labels may be applied manually to wallboard on the stacker. From here, finished lifts can be transferred to the Warehouse for storage and distribution. Both the Board End Saw and the End Saw Dust Collector (CD4) have been removed from the Camden Plant. These units would need to be replaced upon re-startup of the Board Line manufacturing operations.

2.1.7 Soundmat Process Description

Resin pellets are delivered to the Plant in Gaylord boxes or Super Sacks. The resin pellets are vacuumed from the Gaylord boxes with a Vacuum Loader (E115) which directs the pellets into a Hopper Dryer (E116). The Hopper Dryer is electrically heated to remove residual moisture from the resin pellets. The dried resin pellets are then directed into the top of the single screw resin extruder. Pigment Feeders 1&2 (E117, E118) are manually fed with pigment chips through a separate chute into the extruder to provide coloration for the extruded product. The feed rate for the pigment chips is less than 5% of the resin extruder processing rate.

The resin pellets travel through the electrically-heated barrel of the single screw extruder. The extruder is heated to a temperature of approximately 230 degrees Centigrade (446 degrees Fahrenheit). A small electrostatic precipitator (ESP) controls any smoke generated by the Resin Extruder. The resin pellets are softened to a specific viscosity so the material can be pushed through the extrusion die head, forming the resin into a rectangular-shaped mat. As the mat exits the extruder die head, a non-woven fabric is unwound from a reel to form the underlying substrate that adheres to the resin mat. The resin mat with substrate is directed through a water tank cooling and forming system that helps to shape the final form of the resin mat product.

The resin mat is then directed through a piece of dewatering equipment to remove any residual water and then through a cutting and slitting machine to cut the mat into customer-specified sizes. Finally, the resin product mat is wound-up on a reel readied for shipment to off-site customers.

2.1.8 Shipping/Receiving & Warehousing

In addition to shipping (FG1) the manufactured goods (floor underlayment and Soundmat), the facility receives wallboard manufactured offsite. Wallboard is delivered by rail and then staged in the warehouse at the Camden Plant. The shipping department sends out wallboard via flatbed truck to GP's customers.

2.2 INSIGNIFICANT SOURCE OPERATIONS

There are a number of insignificant source operations at the Camden Plant based on the type of source, capacity, production rate, or other operational parameters. Any changes to the insignificant activities list in the current Title V permit must be listed in the renewal application.

The Camden Plant requests to add the Bake-Off Oven (IS27) as an insignificant source. Per N.J.A.C 7:27-22.1, the Bake-Off Oven does not meet the definition of a "significant source operation" since the weight of raw materials does not exceed 50 lb/hr.

The Bake-Off Oven is used to clean spinneret plates associated with the Resin Extruder (U54). The operation of the Resin Extruder results in a build-up of residual polypropylene resin in the openings of the metal spinneret plate inside of the resin extruder. Over time, the build-up of resin can block the flow of melted resin through the spinneret plate, which results in non-uniformity of the polypropylene mat that the extruder produces. Each "batch" polypropylene resin baked in the oven is approximately 1 lb. and each bake is 6-7 hours.

Emission estimates for the Bake-Off Oven are included in Attachment D. No additional changes have been made to the insignificant sources currently represented in the Title V permit.

2.3 TITLE V MODIFICATIONS SUBMITTED DURING THE CURRENT PERMIT TERM

Per N.J.A.C. 7:27-22.30 – *Renewals*, the Title V renewal application must include a summary of all the changes that have been incorporated into the operating permit through administrative amendments, minor modifications, or significant modifications during the past five-year term of the most recent Title V renewal. Below is a summary of these changes.

Permit Activity Number: BOP160001
Minor modification for the installation of one discharge auger (U52) with a maximum raw material usage rate of 10 tons/hr; and the addition of two insignificant sources.

Permit Activity Number: BOP160002
Significant modification for the installation of one Feed Hopper and one Delumper/Discharge Auger (U53), including NSPS Subpart OOO requirements.

Permit Activity Number: BOP170002
Minor modification to make the following changes:

- Addition of the Resin Extrusion Process (U54)
- Addition of two insignificant sources

    - Three Slitters (IS24)
    - Cross Cutter (IS25)
- Deletion of the following emission units from the Title V permit:
    - Dunnage Machine Dust Collector – U45 (E72, E103, PT53, CD38)
    - Dens Shield Line – U46 (E74)
    - Dens Shield Pickup Vacuum – U49 (E105, CD40)
- Deletion of the following equipment:
    - Dunnage Machine (E72)
    - Printer/Dryer (E74)
    - Holtec Saw (E103)
    - Dens Shield Pickup Vacuum (E105)
- Deletion of the following control devices:
    - Dunnage Machine Dust Collector (Baghouse) (CD38)
    - Vacuum Dust Collector (Baghouse) (CD40)
- Deletion of two insignificant sources:
    - DS Shift Code Printer (IS12)
    - Two 3,000-gallon Dens Paint Line Tanks (IS21)
- Replaced the Fugitive PM Management Plan dated December 2013 with the Fugitive PM Management Plan dated January 2018

Permit Activity Number: BOP180001

Minor modification to make the following changes:

- Addition of an electrostatic precipitator (CD40) to the Resin Extrusion Process (U54)
- Addition of 0.00517 TPY of Formaldehyde to emission unit U54 to comply with the revised reporting thresholds in N.J.A.C. 7:27-17
- Addition of insignificant source – four natural gas-fired space heaters (IS26)

Permit Activity Number: BOP190001

Minor modification to increase the hourly gypsum processing rate for the LP Reserve Bin (E14) and the Landplaster Bulk Loading (E38) from 25 tons per hour to 75 tons per hour and increase the hours of operation for the Landplaster Bulk Loading from 1,000 hours of operation per year to 8,760 hours.

3. EMISSIONS INVENTORY

The manufacturing processes at the Camden Plant emit various criteria pollutants and hazardous air pollutants (HAPs) to the atmosphere. This section describes the methodology used to estimate the air emissions from facility operations. Detailed emission calculations are provided in Attachment D.

3.1 OVERVIEW OF EMISSION FACTORS

To facilitate calculating emissions from the significant emission units at the Camden Plant, GP determined the appropriate emission factors, process potential throughputs (based on 8,760 hours per year of operation unless noted otherwise), and control device efficiencies. Emission factors were obtained using various methods and sources, including:

- Emission factors based on manufacturer's guarantees, source testing at the Camden Plant or other GP gypsum manufacturing facilities, mass balance analyses, or regulatory limits;
- U.S. EPA's *AP-42 Compilation of Air Emission Factors (5th Edition, Revised)*;
- U.S. EPA's *Mandatory Reporting Rule for Greenhouse Gases*;
- Journal of the Air & Waste Management Association Magazine
- Texas Commission on Environmental Quality (TCEQ) NSR Guidance for Rock Crushing Plants
- National Council for Air and Stream Improvement, Inc. (NCASI)

Each of these sources of information is discussed in more detail in the following sections.

3.1.1 Emission Factors Developed from Manufacturer's Guarantees, Source Testing, Mass Balance Analyses or Regulatory Limits

Emission factors developed from manufacturer's guarantees and estimates, source testing conducted at the Camden Plant or other GP gypsum manufacturing facilities, mass balance analyses or applicable regulatory limits were used to estimate potential emissions from manufacturing equipment when such information was available and appropriate.

3.1.2 U.S. EPA AP-42 Emission Factors

Emission factors from U.S. EPA's AP-42 database (5th edition unless otherwise noted) were relied upon for fuel combustion and selected process operations. Additionally, AP-42 emission factors were utilized for several material handling activities and fugitive PM emissions. The following AP-42 sections were utilized in the emission calculations for the Camden Gypsum Plant:

- Section 1.3, *Fuel Oil Combustion*
- Section 1.4, *Natural Gas Combustion*
- Section 11.16, *Gypsum Manufacturing*
- Section 11.19, *Crushed Stone Processing and Pulverized Mineral Processing*
- Section 13.2.1, *Paved Roads*
- Section 13.2.2, *Unpaved Roads*
- Section 13.2.4, *Aggregate Handling and Storage Piles*

- Appendix B.2, *Generalized Particle Size Distributions*

3.1.3 U.S. EPA's Mandatory Greenhouse Gas Reporting Rule

Emission factors from U.S. EPA's Mandatory Greenhouse Gas Reporting Rule (40 CFR 98) were used to estimate GHG emissions for the combustion emission sources. These factors are provided in Tables C-1 and C-2 of 40 CFR 98.

3.1.4 Journal of the Air & Waste Management Association Magazine

Emissions factors for the Resin Extruder (E119) were taken from the Journal of the Air & Waste Management, Development of Emission Factors for Polypropylene Processing[2].

3.1.5 TCEQ NSR Guidance for Rock Crushing Plants

TCEQ provides guidance for new source review (construction) permitting of rock crushing plants[3]. This guidance and emissions calculations workbook presents emission factors and control efficiency information for various emission sources used at rock crushing plants.

3.1.6 NCASI Emission Factor

NCASI conducts research and provides technical information to all member companies through a variety of publications, including technical bulletins, special reports, handbooks, and newsletters. GP utilized methodology in the NCASI Technical Bulletin No. 424, *Fugitive Dust Emission Factors and Control Methods Important to Forrest Products Industry Manufacturing Operations* to develop emission factors for wind erosion from storage piles.

[2] Ken Adams, John Bankston, Anthony Barlow, Michael W. Holdren, Jeff Meyer & Vince J. Marchesani (1999) Development of Emission Factors for Polypropylene Processing, Journal of the Air & Waste Management Association, 49:1, 49-56, DOI: 10.1080/10473289.1999.10463782. Link to article: http://dx.doi.org/10.1080/10473289.1999.10463782.

[3] TCEQ NSR Guidance for Rock Crushing Plants: https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/rocks/nsr_fac_rock.html

3.2 FACILITY-WIDE EMISSIONS ESTIMATES

A summary of the facility-wide criteria potential-to-emit and total HAP emissions for the Camden Plant is provided in Tables 3-1 and 3-2. Detailed emission calculations for each significant emissions unit and certain insignificant emissions units that are not categorically exempt from permitting are included in Attachment D. Table 3-1 presents the facility-wide emissions including fugitive emissions.

Table 3-1 – Summary of Facility-Wide Potentials to Emit with Fugitives

Pollutant	Potential Emissions (tons per year)
TSP[1]	90.12
PM_{10}[2]	48.30
$PM_{2.5}$[2]	33.33
VOC	28.43
NOx	63.06
SO_2	2.60
CO	62.94
Pb	2.78E-03
CO_2e	79,510
Total HAP	22.72

Notes:

1. *NJDEP requires that total PM include both the filterable and condensable portion of particulate and refer to this pollutant as TSP.*
2. *PM_{10} and $PM_{2.5}$ include both filterable and condensable portions of particulate of the specified aerodynamic diameter.*

As shown in Table 3-1, the potential-to-emit (PTE) emission rates for all criteria pollutants do not exceed 250 tons/yr major stationary source threshold for industrial categories not on the list of 28 major industrial sources described under 40 CFR 52.21(b)(1)(i)(a).

For informational purposes, Table 3-2 presents facility-wide emissions without fugitive emissions. According to 40 CFR 52.21(b)(1)(iii), fugitive emissions of a stationary source are not to be included in determining whether it is a major stationary source, as long as the source does not belong to any of the 28 major industrial sources listed under 40 CFR 52.21(b)(1)(i)(a). Gypsum mills are not on the list of the 28 major industrial sources listed under 40 CFR 52.21(b)(1)(i)(a), therefore, fugitive emissions generated by the Camden Plant do not need to be included when determining the major source status of the facility for PSD purposes.

Table 3-2 – Summary of Facility-Wide Potentials to Emit without Fugitives

Pollutant	Potential Emissions (tons per year)
PM[1]	45.44
PM_{10}[2]	35.42
$PM_{2.5}$[2]	30.56
VOC	28.43
NOx	63.06
SO_2	2.60
CO	62.94
Pb	2.78E-03
CO_2e	79,510
Total HAP	22.72

Notes:

1. *NJDEP requires that total PM include both the filterable and condensable portion of particulate and refer to this pollutant as TSP.*
2. *PM_{10} and $PM_{2.5}$ include both filterable and condensable portions of particulate of the specified aerodynamic diameter.*

4. REGULATORY REVIEW

The primary objective of the Title V Operating Permit is to compile all applicable Clean Air Act (CAA) requirements into one document. Conceptually, these requirements can be categorized as (1) emissions limits and work practices, or (2) testing, monitoring, recordkeeping or reporting requirements. To assemble a list of all the requirements with which a facility must comply, it is first necessary to determine which federal and state air regulations apply to the facility. Based on the results of these determinations, requirements associated with each regulation deemed to be applicable are compiled and presented in this section and/or included in the current Air Pollution Control Operating Permit.

4.1 MAJOR SOURCE OPERATING PERMITTING PROGRAM

40 CFR Part 70 establishes the federal Title V operating permit program. NJDEP has incorporated the provisions of this federal program under New Jersey Administrative Code Title 7, Chapter 27, Subchapter 22 7, Operating Permits (N.J.A.C 7:27-22). This Title V renewal permit application is being submitted in accordance with the applicable regulations under N.J.A.C.7:27-22.

4.2 PREVENTION OF SIGNIFICANT DETERIORATION

The air quality in Camden County has been designated by the U.S. EPA as "attainment" or "unclassifiable/attainment" for all criteria pollutants except for the 2015 8-hour ozone NAAQS where Camden County is classified as a marginal nonattainment area.[4] Therefore, the major source construction permitting programs potentially applicable to the Camden Plant are Nonattainment New Source Review (NSR) for ozone and Prevention of Significant Deterioration (PSD) permitting program for all other criteria pollutants. The Camden Plant is a minor source under the PSD permitting program for all criteria pollutants other than ozone because emissions of all other criteria pollutants are less than the 250 tpy major source threshold, excluding fugitive emissions, as allowed for sources that are not listed under 40 CFR §52.21(b)(1)(iii). The Camden Plant is considered a major source for non-attainment NSR for NO_x and VOCs, precursors for ozone formation, with 25 ton per year thresholds for each pollutant.

4.3 FEDERAL REGULATORY REQUIREMENTS

Federal air quality regulations reviewed for this Title V renewal application include New Source Performance Standards (NSPS) (40 CFR Part 60), pollutant- and category-specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Parts 61 and 63), Compliance Assurance Monitoring (CAM) (40 CFR Part 64), stratospheric ozone protection (40 CFR Part 82), and Greenhouse Gas Reporting (40 CFR Part 98).

4.3.1 New Source Performance Standards

NSPS require new, modified, or reconstructed sources to control emissions to the level achievable by the best-demonstrated technology as specified in the applicable provisions. Any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, unless

[4] 40 CFR §81.331

specifically excluded.

4.3.1.1 NSPS Subpart A – General Provisions

All affected sources are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification and performance testing, recordkeeping, and monitoring and provides reference methods and mandates general control device requirements for all other subparts as applicable.

4.3.1.2 NSPS Subpart Kb – Storage Tanks

NSPS Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels, regulates storage vessels with a capacity greater than or equal to 75 cubic meters (m^3) (19,813 gallons) that are used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. The Camden Plant has two No. 2 Fuel Oil storage tanks; 1) one with a capacity of 2,500 gallons constructed in 2002 and 2) one with a capacity of 40,000 gallons constructed in 2004. The 2,500-gallon tank is smaller than the capacity threshold of 19,813 gallons and therefore is not subject to Subpart Kb. Although the 40,000-gallon tank exceeds the Subpart Kb threshold of 19,813 gallons, the vapor pressure of No. 2 fuel oil of 0.06 kPa is less than the 15.0 kPa threshold, therefore, according to 40 CFR 60.110b(b), this storage tank is not subject to the Subpart Kb standard.

4.3.1.3 NSPS Subpart IIII/JJJJ – Stationary Engines

NSPS Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, was finalized on July 11, 2006. This rule provides performance standards for stationary compression ignition engines (including emergency engines) that commence reconstruction or modification after the proposal date of July 11, 2005 or construction of a new engine after April 1, 2006. The rule provides performance standards for both engine manufacturers and operators. Engine operators must meet the specified emission standards and fuel type specifications.

The Camden Plant does not have any diesel-powered compression ignition engines on site. Contractors may bring portable equipment on-site temporarily; however, as these are not stationary sources, NSPS Subpart IIII is not applicable.

NSPS Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, was proposed on June 12, 2006 and was finalized January 18, 2008. This rule provides performance standards for stationary spark ignition engines (including emergency engines) that commence reconstruction or modification after the proposal date of June 12, 2006 or construction of a new engine after July 1, 2007. The rule provides performance standards for both engine manufacturers and operators. Engine operators must meet the specified emission standards and fuel type specifications.

The Camden Plant does not have any spark ignition engines on site. Contractors may bring portable equipment on-site temporarily; however, as these are not stationary sources, NSPS Subpart IIII is not applicable.

4.3.1.4 NSPS Subpart OOO

NSPS Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, provides performance standards for fixed or portable nonmetallic mineral processing plants that commenced construction, modification, or reconstruction after August 31, 1983. The provisions of Subpart OOO apply to the following "affected facilities" in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Under Subpart OOO, *nonmetallic minerals* means any of the following minerals or any mixture of which the majority is any of the following minerals: Crushed and Broken Stone; Sand and Gravel; Clay; Rock Salt; Gypsum; Sodium Compounds; Pumice; Gilsonite; Talc and Pyrophyllite; Boron; Barite; Fluorospar; Diatomite; Perlite; Vermiculite; Mica; and Kyanite.

The Camden Plant crushes and grinds gypsum and therefore meets the definition of a nonmetallic mineral processing plant. The relevant provisions of NSPS Subpart OOO are incorporated into the current Title V permit. GP proposes the following changes to the NSPS Subpart OOO provisions.

Raymond Mill #1

Per 40 CFR §60.670(d)(1), "[w]hen an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §60.672 [Standards for particulate matter], 60.674 [Monitoring of operations], and 60.675 [Test methods and procedures]." The owner or operator is only required to submit to the Administrator a notification with the rated capacity of the existing and replacement unit. Facilities to which the replacement provision in 40 CFR §60.670(d)(1) applies are "affected facilities" under the rule even though they are exempt from the PM standards, monitoring and testing.[5]

At the Camden Plant, Raymond Mill #1 (E24) was originally constructed in 1962. In 1995, Raymond Mill #1 was replaced with another pre-Subpart OOO (pre-August 31, 1983) Raymond Mill [?] from another GP gypsum facility, of equal size and having the same function as the existing Mill, with no increase in the amount of emissions generated. Raymond Mill #1 has not been modified or reconstructed since it was replaced in 1995.

The Plant has not been able to find a copy of any replacement notice submitted for the Raymond Mill replacement under 40 CFR 60.676(a)(1), but believes nonetheless that Raymond Mill #1 should be listed in the permit as a Subpart OOO-affected facility even though it remains exempt from the rule's substantive requirements under the replacement provision.

Baghouses that Exhaust Inside a Building

[5] See applicability determinations Equipment Replacement at Mineral Processing Plants, Control No. 0000051, dated June 3, 1999 and Replacement of Equipment and Notification requirements, Control No. 0100062, dated July 20, 2001.

The Camden Plant has several baghouses associated with Subpart OOO-regulated "affected facilities" that exhaust inside a building. With respect to NSPS OOO, GP typically treats these types of sources as building fugitives with a PM standard of 7% opacity from the building openings per 40 CFR §60.672(e)(1). The current Title V permit assigns the fugitive emission PM standard of 10% opacity based on 40 CFR §60.672(b). GP believes that the more appropriate opacity limit for the following "affected facilities" be changed to 7% as demonstrated at the building openings per 40 CFR §60.672(e)(1):

- Densite® Bin (U35, E42, CD25)
- Accelerator Bin (U37, E48, CD27)
- Impact Mill #1 (U38, E49, CD28)
- Impact Mill #2 (U38, E70, CD28)
- Stucco Reserve Bin #2 (U40, E51, CD30)
- Impact Mill Feed Bin (U41, E52, CD31)

Table 4-1 summarizes applicability of NSPS Subpart OOO to the "affected facilities" at the Camden Plant. For each "affected facility, the table provides the type of "affected facility", the construction date, date of any modification, reconstruction or replacement (if applicable), applicable PM emission and opacity limits and the appropriate regulatory citation.

Table 4-1 NSPS Subpart OOO Equipment

EU ID	NJID	Description	Control Device	NSPS OOO "Affected Facility"	Original Date of Construction	Date of Modification/Reconstruction/ Replacement	Emission Limit	Opacity Limit	Regulatory Citation
U24	E24	Raymond Mill #1	Baghouse (CD16) vents outside	Grinding Mill	1962	See Footnote 1	N/A	N/A	60.670(d)(1)
U26	E26	Cement Bin	Baghouse (CD19) vents indoors	Storage Bin	1963	4/17/1988	0.022 gr/dscf	7%	60.672(b)
U31	E71	Bulk Stucco Loading Spout	Baghouse (CD24) vents outside	Enclosed Truck Loading	3/25/1994	N/A	0.022 gr/dscf	7%	60.672(a)
U31	E57	Bulk Stucco Handling Elevator	Baghouse (CD24) vents outside	Bucket Elevator	11/1/1995	N/A	0.022 gr/dscf	7%	60.672(a)
U31	E58	Bulk Stucco Handling Sifter	Baghouse (CD24) Vents outside	Screening Operation	10/20/1995	N/A	0.022 gr/dscf	7%	60.672(a)
U34	E104	Reclaim Belt Conveyor	None	Belt Conveyor	1989	N/A	N/A	10%	60.672(b)
U35	E42	Dens® Cal Feed Bin	Baghouse (CD25) vents indoors	Storage Bin	10/28/1998	N/A	N/A	7%	60.672(e)
U36	E43	Bag Packer	Baghouse (CD26) Vents outside	Bagging Operation	8/7/1998	N/A	0.022 gr/dscf	7%	60.672(a)
U36	E102	Bag Packer	Baghouse (CD26) Vents outside	Bagging Operation	8/7/1998	N/A	0.022 gr/dscf	7%	60.672(a)
U37	E48	Accelerator Bin	Baghouse (CD27) vents indoors[2]	Storage Bin	4/27/1997	N/A	N/A	7%	60.672(e)
U38	E49	Impact Mill #1 (Entoleter)	Baghouse (CD28) vents indoors	Grinding Mill	10/16/1998	N/A	N/A	7%	60.672(e)
U38	E70	Impact Mill #2 (Sturtevant)	Baghouse (CD28) vents indoors	Grinding Mill	10/16/1998	N/A	N/A	7%	60.672(e)
U39	E50	Impact Mill Screen	Baghouse (CD29) vents indoors	Screening Operation	10/16/1998	N/A	N/A	7%	60.672(e)
U40	E51	Stucco Reserve Bin #2	Baghouse (CD30) vents indoors	Storage Bin	1963	N/A	N/A	7%	60.672(e)
U41	E52	Impact Mill Feed Bin	Baghouse (CD31) vents indoors	Storage Bin	1963	N/A	N/A	7%	60.672(e)
U53	E114	Delumper	None	Grinding Mill	2017	N/A	N/A	7%	60.672(e)

1 Raymond Mill No. 1 was replaced with a piece of equipment from another GP gypsum facility, of equal size and having the same function as the existing mill, with no increase in the amount of emissions generated.
2 This baghouse has been removed from service. The Accelerator Bin is currently idled and before operations resume, a replacement baghouse will need to be installed.

4.3.1.5 NSPS Subpart UUU

NSPS Subpart UUU, Standards of Performance for Calciners and Dryers in Mineral Industries, provides performance standards for each calciner and dryer at a mineral processing plant that commenced construction, modification, or reconstruction after April 23, 1986. The Camden Plant has several potential "affected facilities": the kettle calciners, the wallboard board dryer and the rock dryer.

The Camden Plant has three kettle calciners (E3, E4 and E5) that were constructed in 1962. However, the kettle calciners were modified in 2003 when larger burners were installed. As a result, the kettle calciners are "affected facilities" under NSPS Subpart UUU and are characterized as such in the current Title V permit. Per 40 CFR §60.732(a), no emissions shall be discharged from an affected facility that:

> *"Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm (0.025 gr/dscf) for dryers..."*

Since these units are calciners, the correct PM emission limit is 0.040 gr/dscf. However, the current Title V permit incorrectly cites a PM limit of 0.025 gr/dscf which applies to dryers, and not calciners. GP requests that the PM emission limit for the kettle calciners be changed to 0.040 gr/dscf.

The Wallboard Dryer (E7) at the Camden Plant is designed similar to and operates similar to a tunnel dryer and therefore is not considered an "affected facility" under NSPS Subpart UUU as explained in the rule below:

Per 40 CFR §60.730(b) (emphasis added):

> *"...the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns,* ***tunnel dryers****, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in §60.731, "Mineral processing plant")."*

The Rotary Rock Dryer (E11) was originally constructed in 1985. Since the unit was constructed before the applicability date of April 23, 1986 and has not been modified or reconstructed since it was originally constructed, the Rotary Rock Dryer is not an "affected facility" under NSPS Subpart UUU.

4.3.1.6 Non-applicability of Other NSPS

NSPS standards are developed for particular industrial source categories. Other than NSPS developed for steam generating units, storage tanks, and engines, the applicability of a particular NSPS to a facility can readily be ascertained based on the industrial source category covered.

Subparts Kb, IIII, JJJJ, OOO, and UUU were previously addressed. All other NSPS are categorically not applicable to gypsum manufacturing facilities.

4.3.2 National Emissions Standards for Hazardous Air Pollutants

NESHAP, federal regulations found in Title 40 Parts 61 and 63 of the CFR, are emission standards for hazardous air pollutants (HAPs) that apply to major sources of HAPs (facilities that exceed the major source thresholds of 10 tpy of a single HAP and 25 tpy of any combination of HAPs) or specifically designated area sources under Part 63. The Part 63 NESHAPs apply to sources in specifically regulated industrial source classifications (Clean Air Act Section 112(d)) or on a case-by-case basis (Clean Air Act Sections 112(g) and 112(j)) where U.S. EPA has failed to promulgate a 112(d) standard. However, there are no specifically regulated MACT standards applicable to Gypsum Plants. The Camden Plant HAP emissions are below major source thresholds and is thus not subject to any major source NESHAPs.

4.3.2.1 40 CFR Part 63, Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

40 CFR Part 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), regulates HAP emissions from RICE located at major and area sources of HAP. A stationary RICE is considered an existing source if construction or reconstruction of the stationary RICE commenced before June 12, 2006.

The Camden Plant does not have any RICE on site. Contractors may bring portable equipment on-site temporarily; however, as these units are not stationary sources, NESHAP Subpart ZZZZ is not applicable

4.3.2.2 40 CFR Part 63, Subpart JJJJJJ – Industrial, Commercial, and Institutional Boilers at Area Sources

40 CFR Part 63, Subpart JJJJJJ – NESHAP for Industrial, Commercial, and Institutional Boilers at Area Sources, regulates HAP emissions from certain boilers located at area sources of HAP. An affected source is an existing source if construction or reconstruction was commenced before June 4, 2010.

The Camden Plant is an area source of HAPs and has a 2.5 million British thermal units per hour (MMBtu/hr) Office Boiler (E6) constructed in 1968 and a 1.68 MMBtu/hr Process Water Heater (E8) constructed in 1995.

According to §63.11195(e), gas-fired boilers are not subject to NESHAP Subpart JJJJJJ. The Office Boiler only burns natural gas, and as a result, is exempt from Subpart JJJJJJ. The Process Water Heater has the capability to fire both natural gas and diesel fuel oil. However, process heaters are specifically excluded from the definition of "boiler" under the rule; therefore, Subpart JJJJJJ does not apply to the Process Water Heater.

4.3.2.3 Non-applicability of Other NESHAP

As with the NSPS standards, NESHAP are primarily developed for particular industrial source

categories. Therefore, the applicability of a particular NESHAP to a facility can be readily ascertained based on the industrial source category covered. All NESHAP regulations, both in 40 CFR Part 61 and 40 CFR Part 63, besides those specifically discussed above are not applicable to sources at gypsum plants.

4.3.3 Compliance Assurance Monitoring

Under 40 CFR Part 64, Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emission units with the initial or renewal Part 70 operating permit application. Under the general applicability criteria, CAM only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Part 70 operating program.

GP is submitting a revised CAM Plan with this application. A summary of the emission units subject to CAM including the emission unit and emission point numbers, as well as the emission unit descriptions are shown in Table 4-2. A detailed CAM Plan is included in Attachment E of this application.

Table 4-2 Emission Units Subject to CAM

Emission Unit No.	Emission Point No.	Emission Unit Description	Control Device ID
U2	E3	Kettle #1	CD1
U2	E4	Kettle #2	CD2
U2	E5	Kettle #3	CD3
U11	E11	Rotary Rock Dryer	CD5
U14	E14, E38	LP Bin #4, LP Bulk Truck Loading	CD6, CD24
U24	E24	Raymond Mill #1	CD16
U24	E25	Raymond Mill #2	CD18
U31	E31-E37; E57-E58; E71, E106	Stucco Cooling	CD24

4.3.4 Risk Management Plan

Subpart B of 40 CFR Part 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at the facility. GP has evaluated the quantities of Section 112(r) regulated substances stored at the facility and has determined that no chemicals are stored in quantities that exceed the regulatory threshold levels. Therefore, a Risk Management Plan is not required for the Camden Plant.

4.3.5 Stratospheric Ozone Protection

The requirements originating from Title VI of the Clean Air Act, entitled Protection of Stratospheric Ozone, are contained in 40 CFR Part 82. Subparts A through E and Subparts G and H are not applicable to the Mill. Subpart F of 40 CFR Part 82, Recycling and Emissions Reduction,

potentially applies if the facility maintains, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified. All repairs, service, and disposal of ozone depleting substances from any chillers and air conditioners at the Mill are completed by a certified technician. Service records documenting the date and type of service, as well as the quantity of refrigerant added, must be maintained for a minimum of three years for all appliances that normally contain 50 or more pounds of refrigerant. The Mill anticipates that the renewal operating permit will maintain current Permit Section 7.11, which requires that the Mill comply with applicable provisions of 40 CFR Part 82.

On November 18, 2016, EPA published revisions to the existing regulations under Subpart F This final rule became effective on January 1, 2017. This rule updates those existing requirements, as well as extends them, as applicable, to non-ozone depleting substitute refrigerants, such as hydrofluorocarbons (HFCs). Updates include more stringent leak repair requirements, recordkeeping requirements for the disposal of appliances containing more than five and less than 50 pounds of refrigerant, revisions to the technician certification program, and other revisions. The facility will comply with the all new applicable compliance requirements by the relevant compliance dates, January 1, 2018 and January 1, 2019, as appropriate per the updated regulations.

4.4 NEW JERSEY REGULATORY REQUIREMENTS

In addition to federal air regulations, the state of New Jersey establishes regulations for the control and abatement of air pollution applicable at the emission unit and at the facility levels. The rules also contain requirements related to the need for construction and/or operating permits. The following state regulations potentially apply to the Camden Plant. GP has achieved, demonstrated, and maintained compliance with applicable requirements under these regulations during the current Title V Operating Permit term. GP anticipates that currently effective specific permit conditions based on these requirements will remain in the renewed Title V Permit.

4.4.1 N.J.A.C 7:27-2 – Subchapter 2. Open Burning

Subchapter 2 prohibits the open burning of rubbish, garbage, trade waste, buildings, structures, leaves, other plant life or salvage. The Camden Plant does not perform any open burning at the facility.

4.4.2 N.J.A.C 7:27-3 – Subchapter 3. Control and Prohibition of Smoke from Combustion Fuel

Subchapter 3 prohibits the emission of visible smoke to the atmosphere from combustion equipment and set visible emission limits that vary with the types of combustion sources. Combustion sources at the Camden Plant fall under N.J.A.C 7:27-3.2 – Smoke Emissions from Stationary Indirect Heat Exchangers that stipulates that no visible emission, exclusive of condensed water vapor, shall be emitted into the atmosphere for more than three minutes in any consecutive 30-minute period.

4.4.3 N.J.A.C 7:27-4 – Subchapter 4. Control and Prohibition of Particles from Combustion Fuel

Subchapter 4 sets the maximum allowable rate of particulate emissions for combustion sources based on the emission unit maximum heat input rate in MMBtu/hr. 7:27-4.2 provides a table that relates maximum heat input to maximum allowable particulate emissions with instruction to calculate by interpolation the maximum allowable emissions for a heat input rates that fall between to listed input rate. All combustion sources at the Camden Plant have established maximum allowable particulate emission rates based on this regulation and all are represented accurately in the current Title V permit.

4.4.4 N.J.A.C 7:27-6 – Subchapter 6. Control and Prohibition of Particles from Manufacturing Processes

Subchapter 6 establishes the maximum allowable particulate emissions for manufacturing process sources based on two criteria; 1) the potential emission rate from source operation in pounds per hour (lb/hr) and, 2) the exhaust flow from the source in standard cubic feet per minute (scfm). The maximum allowable particulate emission rate is the greater of the two values developed from the two criteria. Subchapter 6 also establishes an opacity limit of 20% for a period no longer than three minutes in any consecutive 30-minute period. All manufacturing process sources at the Camden Plant have established maximum allowable particulate emission rates based on this regulation and all are represented accurately in the current Title V permit.

4.4.5 N.J.A.C 7:27-9 – Subchapter 9. Sulfur in Fuels

Subchapter 9 sets limits on the sulfur content of typical grades of fuel oil to be stored, sold or used in New Jersey. The Camden Plant is permitted to fire diesel fuel in several units. Per N.J.A.C 7:27-9.2(a), the sulfur content for diesel fuel may not exceed 500 parts per million (ppm).

4.4.6 N.J.A.C 7:27-16 – Subchapter 16. Control and Prohibition of Air Pollution from VOCs

Subchapter 16 establishes requirements and procedures concerning the control of Volatile Organic Compounds (VOC) by requiring stationary sources to utilize reasonably available control technology (RACT). Applicability thresholds, standards and emission limits are provided throughout the subchapter. The current Title V permit has established controls of VOCs through emission limits, material usage limits, annual boiler tuning. GP does not request any changes.

4.4.7 N.J.A.C 7:27-17 – Subchapter 17. Control and Prohibition of Air Pollution by Toxic Substances

Subchapter 17 establishes reporting limits and state of the art (SOTA) thresholds for toxic substances. Operations and equipment covered by this Subchapter include, but are not be limited to, storage tanks, transfer operations, open top tanks, surface cleaning, surface coating, organic chemical manufacture, pharmaceutical manufacture, petroleum refining, and miscellaneous organic solvent uses. The Plant does not store, transfer, use, or manufacture any Group I or Group II toxic substance, therefore, the Plant is not subject to any of the reporting limits and SOTA thresholds established under N.J.A.C. 7:27-17.9(a). Additionally, because the Plant's operating permit is due to expire before February 12, 2021[6], there is no requirement to provide a demonstration that HAPs do not exceed the applicable threshold for reporting emissions under N.J.A.C. 7:27-17.9(a) as part of this Title V renewal application.

4.4.8 N.J.A.C 7:27-19 – Subchapter 19. Control and Prohibition of Air Pollution from Oxides of Nitrogen

Subchapter 19 establishes requirements and procedures concerning the control of nitrogen oxides (NO_X) by requiring stationary sources to utilize reasonably available control technology (RACT). Applicability thresholds, standards and emission limits are provided throughout the subchapter. The current Title V permit has established controls of NO_X through emission limits, material usage limits, annual boiler tuning. GP does not request any changes.

[6] See N.J.A.C. 7:27-22.30(l) of state regulations.

5. REVISIONS TO CURRENT PERMIT

The Camden Plant is requesting several changes to the Title V permit. Attachment C contains a detailed description of all changes. Any permit limit increases have been included in a minor modification permit application that was submitted concurrently with this renewal application.

Additionally, please note that the Camden Plant is requesting a revision to the "Revised Title V Fugitive PM Management Plan Monthly Inspection Checklist." This proposed change is discussed in Attachment C and the proposed new form is included as Attachment G.

6. COMPLIANCE CERTIFICATION

6.1 DETERMINATION OF COMPLIANCE STATUS

Compliance requirements applicable to the Camden Plant include federally enforceable numeric mass emissions limits, operating conditions, and general provisions. GP has previously certified compliance with these requirements via the annual compliance certifications.

6.2 COMPLIANCE PLAN

In accordance with the provisions contained in 40 CFR 70.5(c)(8)(ii)(A), GP will continue to comply with the applicable requirements identified in this permit application for all units currently in compliance.

Similarly, in accordance with the provisions contained in 40 CFR 70.5(c)(8)(ii)(B), GP will continue to meet, on a timely basis, all new applicable requirements that become effective during the permit term.

6.3 SCHEDULE FOR SUBMITTAL OF REQUIRED REPORTS AND ANNUAL COMPLIANCE CERTIFICATION

In accordance with N.J.A.C 27:7-22.19(f), which is consistent with 40 CFR §70.6(c), GP will continue to provide written certifications signed by the responsible official to NJ DEP, at least annually, of compliance with the Title V Operating Permit conditions. GP anticipates that the requirements in N.J.A.C 7:27-22.19(e) and Facility Specific Requirements Ref# 13 of the Plant's Title V Operating Permit will be maintained to require semiannual reports of permit deviations on a schedule established by NJ DEP.

ATTACHMENT A

FACILITY MAPS

~~ATTACHMENT B~~

~~PROCESS FLOW DIAGRAMS~~

ATTACHMENT C

PERMIT CHANGE REQUESTS

ATTACHMENT D

EMISSION CALCULATIONS

ATTACHMENT E

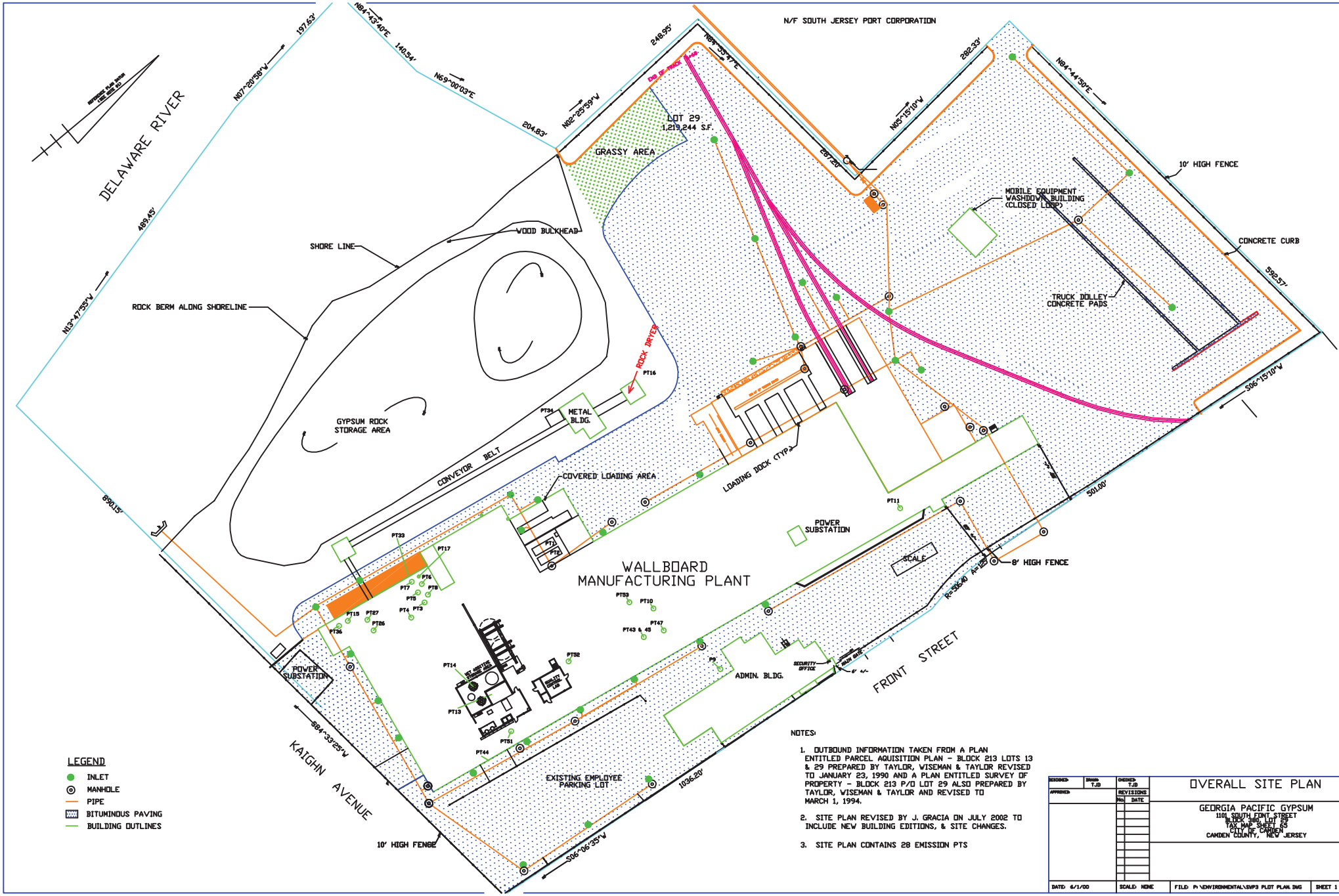
CAM APPLICABILITY SUMMARY

ATTACHMENT F

NETTING ANALYSIS

ATTACHMENT G

REVISED TITLE V FUGITIVE PM MANAGEMENT PLAN
MONTHLY INSPECTION CHECKLIST



NOTES:

1. OUTBOUND INFORMATION TAKEN FROM A PLAN ENTITLED PARCEL AQUISITION PLAN - BLOCK 213 LOTS 13 & 29 PREPARED BY TAYLOR, WISEMAN & TAYLOR REVISED TO JANUARY 23, 1990 AND A PLAN ENTITLED SURVEY OF PROPERTY - BLOCK 213 P/O LOT 29 ALSO PREPARED BY TAYLOR, WISEMAN & TAYLOR AND REVISED TO MARCH 1, 1994.

2. SITE PLAN REVISED BY J. GRACIA ON JULY 2002 TO INCLUDE NEW BUILDING EDITIONS, & SITE CHANGES.

3. SITE PLAN CONTAINS 28 EMISSION PTS

OVERALL SITE PLAN

GEORGIA PACIFIC GYPSUM
1101 SOUTH FORT STREET
BLOCK 260, LOT 29
TAX MAP SHEET 65
CITY OF CAMDEN
CAMDEN COUNTY, NEW JERSEY

DESIGNED	DRAWN	CHECKED
	T.J.D	T.J.D
APPROVED		REVISIONS
		NO. DATE

DATE 6/1/00 | SCALE NONE | FILE P:\ENVIRONMENTAL\SWP3 PLOT PLAN.DWG | SHEET 1 OF 1

ATTACHMENT C
PERMIT CHANGE REQUESTS

Permit Change Requests

The Camden Gypsum Plant requests the following revisions to the current Title V Operating Permit. Emission calculations to support the changes requested below are contained in Attachment D of this permit renewal application.

This document is organized in three sections: Increases to Potential-To-Emit (PTE), Creditable Emission Reductions, and Notable Changes. Increases to PTE are shown in the corresponding Minor Modification as IA, which is defined as "*any proposed increase in allowable emissions of the air contaminant from the newly constructed, reconstructed, or modified equipment or control apparatus which is the subject of the permit application*". None of the increases are due to any physical changes or a change in the method of operation to any of the process equipment. Rather, the changes are being made to reflect the use of different emission factors, correction to the proper exhaust flow rate, changes to the quantity of fuel used, and corrections to the proper process rate weight. Creditable Emission Reductions are being sought for currently operating equipment and are shown in the corresponding Minor Modification as DC, which is defined as "*the sum of all creditable emission reduction at the facility during the contemporaneous period, not including any creditable emission reduction previously used as emission offsets at the facility or any other facility*". The Notable Changes section is meant to bring attention to: Emission Units no longer onsite and/or removed from service, nomenclature changes to reflect operator's designation of equipment and reduce confusion, Minor Modification(s) currently being processed by the NJDEP (with new Permit Activity Number assignment), changes to emission rates that do not result in increases to PTE (will not be reflected in Minor Modification), and emissions reductions that will occur, but are not considered Creditable Emission Reductions (DC).

Increases to Potential-To-Emit (PTE)

U8 – Process Water Heater

Using current AP-42 emission factors for CO for industrial boilers burning natural gas with a heat input rating less than 100 MM Btu/hr, or 84 lb CO/MM scf, a heat content value for natural gas of 1,020 Btu/scf, and a heat input rating of 1.68 MM Btu/hr for the burner, the hourly CO emission rate is 0.14 lb/hr (0.082 lb/MM Btu) compared to the Permit limit of less than 0.05 lb/hr. Similarly, due to a change in the hourly CO emission rate, the annual CO emission rate will increase above the current permit limit of 0.26 tons/yr to 0.40 tons/yr, based on a maximum natural gas usage rate of 9,636 MM Btu/yr. GP requests NJDEP to increase the CO permit limit to 0.14 lb/hr and 0.40 tons/yr. GP is not requesting any changes in the CO permit limits that apply when firing ULSD fuel oil.

U10 – Board End Saw

The Plant requests NJDEP to increase the Title V TSP permit limit for the Board End Saw (E10) from less than 0.05 lb/hr and 0.22 tons/yr to 0.62 lb/hr (TSP/PM_{10}), 0.32 lb/hr ($PM_{2.5}$) and 2.7 tons/yr and 1.41 tons/yr, respectively. This source is controlled by baghouse CD4.

This is based on calculating the TSP/PM_{10} emission rate as shown below:

lb TSP/PM_{10}/hr = 0.02 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.62 lb/hr
tons TSP/PM_{10}/yr = 0.62 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 2.70 tons/yr

lb $PM_{2.5}$/hr = 0.010 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.32 lb/hr
tons $PM_{2.5}$/yr = 0.32 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.41 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 3,800 acfm and multiplying it by correcting the actual temperature of 100 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U11 – Rock Dryer

The Plant is requesting NJDEP to lower the allowable use of ultra-low sulfur fuel oil from 956,900 gallons per year to 932,000 gallons per year. This is being done to ensure the Plant can meet the Title V permit NO_x emission limit of 9.32 tons per year, using the latest NO_x emission factor for the Rock Dryer burner from AP-42, for natural gas firing.

The Plant also requests NJDEP to raise the VOC limit for natural gas firing from 0.07 lb/hr to 0.1375 lb/hr and from 0.18 tons/yr to 0.37 tons/yr, based on using the latest VOC emission factor from AP-42, for natural gas firing.

U15 – Stucco Elevators

Scalping Screw Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Stucco Scalping Screw Elevator (OS3, E66) from less than 0.05 lb/hr to 0.076 lb/hr. This source is controlled by baghouse CD32.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 441.7 dscfm x 60 min/hr / 7,000 grains/lb = 0.076 lb/hr
tons TSP/yr = 0.076 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.33 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

Dry Additives Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Dry Additives Elevator (OS4, E59) from less than 0.05 lb/hr to 0.10 lb/hr. This source is controlled by baghouse CD34.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 589 dscfm x 60 min/hr / 7,000 grains/lb = 0.10 lb/hr
tons TSP/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.44 tons/yr

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD34, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Dry Additives Elevator, is 667 acfm (589 dscfm), and not 1,200 acfm, as stated on Page 640 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 667 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to revise the gypsum processing rate for the Dry Additives Elevator (OS4, E59) from 10,000 lbs/hr and 43,800 tons/yr as indicated under Reference Nos. 3-4 in the Title V permit to 100,000 lbs/hr and 438,000 tons/yr. The higher gypsum processing rates are the correct rates for this source and match the processing rates for the other stucco elevators listed under Emission Unit U15. The 10,0000 lbs/hr and 43,800 tons/yr values appear to be transcription errors.

U17 – Landplaster Pneumatic Conveying Process

The Plant requests NJDEP to increase the Title V TSP permit limit for the Landplaster Pneumatic Conveying Process (E17) from less than 0.05 lb/hr and 0.22 tons/yr to 0.081 lb/hr and 0.36 tons/yr. This source is controlled by baghouse CD8.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 473 dscfm x 60 min/hr / 7,000 grains/lb = 0.081 lb/hr
tons TSP/yr = 0.081 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.36 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 100 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the total material transferred rate from 4,380 tons/yr as indicated under Reference No. 8 in the Title V permit to 43,800 tons/yr. The 4,380 appears to be a transcription error since the hourly material processing rate of 10,000 lbs/hr multiplied by 8,760 hrs/yr and divided by 2,000 lbs/ton should be 43,800 tons/yr and not 4,380 tons/yr.

U34 – Steele Feeder

The Plant requests NJDEP to increase the Title V TSP permit limit for the Steele Feeder (E40, E104) from less than 0.05 lb/hr and 0.22 tons/yr to 0.29 lb/hr (TSP) and 0.14 lb/hr (PM_{10}), and 1.27 tons/yr and 0.59 tons/yr, respectively. $PM_{2.5}$ remains below the reporting threshold of 0.05 lb/hr.

This is based on calculating the TSP emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb TSP/hr = 0.0055 lb/ton x 50 ton/hr = 0.27 lb/hr
E104 lb TSP/hr = 0.003 lb/ton x 50 ton/hr x 90% efficiency = 0.02 lb/hr

E40 tons TSP/yr = 0.27 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.20 tons/yr
E104 tons TSP/yr = 0.02 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.07 tons/yr

tons TSP/yr = 1.20 tons/yr + 0.07 tons/yr = 1.27 tons/yr

This is based on calculating the PM_{10} emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb PM_{10}/hr = 0.0026 lb/ton x 50 ton/hr = 0.13 lb/hr
E104 lb PM_{10}/hr = 0.0011 lb/ton x 50 ton/hr x 90% efficiency = 0.01 lb/hr

E40 tons PM_{10}/yr = 0.13 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.57 tons/yr
E104 tons PM_{10}/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.02 tons/yr

tons PM_{10}/yr = 0.57 tons/yr + 0.02 tons/yr = 0.59 tons/yr

U35 – Densite® Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD25, which controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Densite® Bin, is 950 acfm (950 dscfm), and not 300 acfm, as stated on Page 649 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018. The change to a higher baghouse exhaust flow rate increases the TSP PTE emission rate to 0.163 lb/hr as shown below:

lb TSP/hr = 0.02 grains/dscf x 950 dscfm x 60 min/hr / 7,000 grains/lb = 0.163 lb/hr
tons TSP/yr = 0.163 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.714 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant requests NJDEP to increase the Title V TSP permit limit for the Densite® Bin (E42) from less than 0.05 lb/hr and 0.22 tons/yr to 0.163 lb/hr and 0.714 tons/yr.

U36 – Gypcrete/Rock Bin(s)

The Plant requests NJDEP to increase the Title V TSP permit limit for the Gypcrete/Rock Bin(s) (OS Summary) from 0.77 lbs/hr and 3.37 tons/yr to to 0.80 lbs/hr and 3.49 tons/yr.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 4,649 dscfm x 60 min/hr / 7,000 grains/lb = 0.80 lb/hr.
tons TSP/yr = 0.80 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 3.49 tons/yr

The Gypcrete/Rock Bin(s) use a baghouse (CD26) with an exhaust fan rated at 5,000 acfm to collect dust generated from the loading of the bins. The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 5,000 acfm and multiplying it by correcting the actual temperature of 110 ^{o}F to 70 ^{o}F standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the Title V TSP permit limit for the #1 Rock Bin Transfer - 11 Belt (OS3, E45), #2 Rock Bin Transfer - 11 Belt (OS4, E46), and the Rock Transfer – 10 Belt to 11 Belt (OS5, E47) from less than 0.05 lb/hr and 0.22 tons/yr to 0.059 lb/hr and 0.26 tons/yr.

This is based on calculating the TSP emission rate as shown below:

Emission Factors from AP-42, for controlled conveyor transfer points, Table 11.19.2-2:

TSP = 0.00014 lb/ton gypsum processed
TSP = 0.00014 lb/ton x 140 ton/hr x 3 conveyor drop points = 0.059 lb/hr
TSP = 0.059 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.26 tons/yr

See detailed emission calculations for PM_{10} and $PM_{2.5}$ values.

U37 – Accelerator Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Accelerator Bin (E48) from less than 0.05 lb/hr and 0.22 tons/yr to 0.051 lb/hr and 0.225 tons/yr. This source is controlled by baghouse CD27.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr
tons TSP/yr = 0.051 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.22 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^{o}F is the same as the standard temperature of 70 ^{o}F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U38 – Impact Mill

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Nos. 1-2 (E48, E70) from less than 0.05 lb/hr and 0.22 tons/yr to 0.206 lb/hr and 0.902 tons/yr. This source is controlled by baghouse CD28.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 1,200 dscfm x 60 min/hr / 7,000 grains/lb = 0.206 lb/hr
tons TSP/yr = 0.206 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.902 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 1,200 acfm because the actual operating temperature of 70 °F is the same as the standard temperature of 70 °F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to change the identification number of the baghouse used to control emissions from the Molding Plaster Bin Elevator OS3 (E61) from CD28 to CD23 only. CD31 controls emissions from the Impact Mill Feed Bin to the Impact Mill (E52) and the Impact Mill Feed Bin Elevator (E60) and is initially listed on Page 208 of 272 in Permit No. BOP180001, issued on 7-24-2018.

Creditable Emission Reductions

U2 – Kettle Calciners #1, #2 and #3

U2		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Kettle #1 & Kettle #2 & Kettle #3 (combined)	From BOP180001	2.94	2.94	2.94
	Proposed Renewal Values*	2.78*	2.78*	2.78*
	Reduction	*0.16*	*0.16*	*0.16*

U24 – Raymond Mill #1 and Raymond Mill #2

U24		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Raymond Mill #1 & Raymond Mill #2 (combined)	From BOP180001	2.55	2.55	2.55
	Proposed Renewal Values*	1.28*	1.28*	1.28*
	Reduction	*1.27*	*1.27*	*1.27*

U51 – Crusher Building and Transfer Tower

U51		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Crusher Building & Transfer Tower	From BOP180001	5.06	3.48	3.48
	Proposed Renewal Values*	1.38*	1.38*	1.38*
	Reduction	*3.68*	*2.10*	*2.10*

**Reference Attachment D – Emission Calculations for complete emission factors and calculation methodology.*

Notable Changes

Emission Units No Longer Onsite and/or Removed from Service

Table C-1 summarizes those emission sources that are no longer onsite or permanently removed from service and that should be removed from the Title V permit. The Plant has disconnected the electric power connection and taken other measures to isolate and demonstrate non-operability for any units that have been permanently shut down and removed from service but remain onsite.

Table C-1 Emission Units No Longer Onsite and/or Removed from Service		
Emission Unit	**Emission Unit Description**	
IS22	**Temporary Diesel Generator (< 1 MM Btu/hr max.heat input, < 37 kw)**	**No longer onsite - remove from permit.**
IS23	**Temporary Storage Silo (< 2000 ft^3 capacity)**	**No longer onsite - remove from permit.**
U15	**Stucco Supply Elevator (E15); Stucco Recirculating Elevator (E16); Stucco Weigh Belt (E67).**	**All three units permanently shut down and removed from service – remove from permit.**
U23	**Pin Mixer**	**No longer onsite - remove from permit**
U42	**Ball Mill Nos. 1-4**	**Nos. 2-4 No longer onsite; No. 1 permanently shut down and removed from installation - remove all 4 ball mills from permit.**
U52	**Temporary Discharge Auger # 1**	**No longer onsite - remove from permit.**

Nomenclature Changes

The Plant requests the following revisions to the descriptions of several emission sources to match the descriptions commonly used by Plant personnel:

Emission Unit	Current Description in BOP180001	Proposed Description in Title V permit
U14	**LP Reserve Bin & Landplaster Bulk Loading**	**LP Bin #4 & Landplaster Bulk Loading**
U26	**Portland Cement Bin (aka Reserve Bin #4)**	**Portland Cement Bin**
U30	**Molding Plaster Bin/**	**Molding Plaster Bin**
U34	**Reclaim Feeder and Belt Conveyor**	**Steele Feeder**
U35	**Dens Cal Feed Bin**	**Densite® Feed Bin**
U36	**Blender/Packer System**	**Gypcrete/Rock Bin(s)**
U37	**Landplaster Bin #4 (aka Board Plant Landplaster Bin)**	**Accelerator Bin**
U47	**Reject Bin Dust Collector**	**Reject Bin**
U53	**Franklin Miller DeLumper**	**DeLumper**

Modification(s) Currently Being Processed by NJDEP

BOP190001 has been assigned by the NJDEP to the Minor Title V Modification of U14 & U31 as described below, and thus not included in the permit renewal or accompanying Minor Modification (less Contemporaneous Period).

U14 – LP Bin #4 & Landplaster Bulk Loading SENT TO THE DEPARTMENT on 03/21/2019 AND ASSIGNED BOP190001

The Plant is submitting a separate Title V Modification request to increase the Landplaster (LP) processing rate through the LP Bin (E14) from 25 tons/hr to 75 tons/hr. The Plant is also requesting to increase the LP processing rate for the Landplaster Bulk (Truck) Loading operation (E38) from 25 tons/hr to 75 tons/hr.

The Plant is requesting to increase the hourly and annual emission rates for these operations based on the exhaust flow rates for the fans directing emissions to the baghouses (CD6, CD24) used to control particulate matter emissions. The requested changes in emission rates for these sources are shown below:

Current Permit Limits:	TSP <=0.101 lb/hr and 0.054 ton/yr $PM_{10}/PM_{2.5}$ <= 0.101 lb/hr and 0.054 ton/yr
Requested Permit limits:	$TSP/PM_{10}/PM_{2.5}$ <= 0.335 lb/hr for E14 and 0.14 lb/hr for E38. Annual emissions = 1.47 tons/yr for E14 and 0.61 tons/yr for E38

U31 – Stucco Cooling SENT TO THE DEPARTMENT on 03/21/2019 AND ASSIGNED BOP190001

The Plant is submitting a separate Title V Modification request to increase the Title V TSP permit limit for the Elevator Discharge Screw (OS1, E31), Stucco Cooler - #1 Collecting Screw (OS2, E32), Stucco Cooler - #1 Cross Screw (OS3, E33), Stucco Cooler - #2 Elevator Discharge Screw (OS4, E34), Stucco Cooler - #2 Collecting Screw (OS5, E35), Stucco Cooler - #2 Cross Screw (OS6, E36), and Stucco Cooler - #430 Conveyor Screw (OS7, E37) from less than 0.05 lb/hr to 0.059 lb/hr.

This is based on calculating the TSP emission rate as shown below:

Emission Factors from AP-42, for controlled conveyor transfer points, Table 11.19.2-2:

TSP = 0.00014 lb/ton gypsum processed
TSP = 0.00014 lb/ton x 60 ton/hr x 7 conveyor drop points = 0.059 lb/hr
TSP = 0.059 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.26 tons/yr

PM_{10} = 0.000046 lb/ton gypsum processed
PM_{10} = 0.000046 lb/ton x 60 ton/hr x 7 conveyor drop points = 0.019 lb/hr
PM_{10} = 0.019 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.08 tons/yr

$PM_{2.5}$ = 0.000013 lb/ton gypsum processed
$PM_{2.5}$ = 0.000013 lb/ton x 60 ton/hr x 7 conveyor drop points = 0.005 lb/hr
$PM_{2.5}$ = 0.005 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.02 tons/yr

The Plant also requests NJDEP to increase the Title V TSP permit limit for the Bulk Stucco Truck Loading Spout (OS8, E71) from 0.1 lb/hr and 0.44 tons/yr to 0.14 lb/hr and 0.61 tons/yr.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 815 dscfm x 60 min/hr / 7,000 grains/lb = 0.14 lb/hr.
tons TSP/yr = 0.14 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.61 tons/yr

The Bulk Stucco Truck Loading Spout uses a booster fan rated at 1,000 acfm to direct dust generated from the loading operation to Baghouse CD6. The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 1,000 acfm and multiplying it by correcting the actual temperature of 190 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the Title V TSP permit limit for the combined operation of the Bulk Stucco Handling Elevator (E57) and the Bulk Stucco Handling Sifter (E58) from less than 0.05 lb/hr to 0.117 lb/hr.

This is based on calculating the TSP emission rate as shown below:

E57: Emission Factors from AP-42, for controlled conveyor transfer points, Table 11.19.2-2:

TSP = 0.00014 lb/ton gypsum processed
TSP = 0.00014 lb/ton x 50 ton/hr x 1 conveyor drop point = 0.007 lb/hr

E58: Emission Factors from AP-42, for controlled screening operation, Table 11.19.2-2:

TSP = 0.0022 lb/ton gypsum processed
TSP = 0.0022 lb/ton x 50 ton/hr = 0.11 lb/hr

Total for E57 and E-58: 0.007 lb/hr + 0.11 lb/hr = 0.117 lb/hr

See detailed emission calculations for PM_{10} and $PM_{2.5}$ values for E57 and E58.

The Plant requests NJDEP to increase the Title V TSP permit limit for the Summary of OS1-OS9, from 1.09 lb/hr and 4.8 tons/yr to 1.12 lb/hr and 4.9 tons/yr. This source is controlled by baghouse CD24.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 6,523 dscfm x 60 min/hr / 7,000 grains/lb = 1.12 lb/hr
tons TSP/yr = 1.12 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 4.90 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 8,000 acfm and multiplying it by correcting the actual temperature of 190 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0)

percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

Changes to Emission Rates That Do Not Increase the PTE (IA)

U22 – Stucco Reserve Storage Bin #1

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD13, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Stucco Reserve Storage Bin # 1, is 220 acfm (208 dscfm), and not 200 acfm, as stated on Page 644 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018. This change only slightly increases the TSP PTE emission rate as shown below, which remains below the NJDEP's reporting threshold of 0.05 lb/hr in Appendix to N.J.A.C. 7:27-22:

lb TSP/hr = 0.02 grains/dscf x 208 dscfm x 60 min/hr / 7,000 grains/lb = 0.036 lb/hr
tons TSP/yr = 0.036 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.16 tons/yr

U24 – Raymond Mill Nos. 1 and 2

The Plant requests NJDEP to increase the hourly NO_x permit limit from 0.57 lbs/hr to 0.61 lbs/hr when firing ultra-low sulfur diesel (ULSD) fuel oil. This is based on using the ULSD fuel NO_x emission factor of 0.1216 lb/MM Btu for the burner and a maximum firing rate of 5.0 MM Btu/hr. The Plant is not requesting a change in the annual NO_x permit limit of 3.83 tons/yr when firing ULSD fuel.

The Plant requests NJDEP to reduce the allowable ULSD fuel oil usage rate from 479,323 gal/yr to 450,000 gal/yr to meet the NO_x permit limit of 3.83 tons/yr for both Mills based on the ULSD fuel NO_x burner emission factor.

U26 – Portland Cement Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD19, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Portland Cement Bin is 950 acfm (846 dscfm), and not 750 acfm, as stated on Page 645 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The Plant has taken a voluntary limit of 0.1 lbs TSP/PM_{10}/$PM_{2.5}$/hr and 0.4 tons TSP/PM_{10}/$PM_{2.5}$/yr for this source. The Plant will continue to accept a voluntary limit of 0.1 lbs/hr and 0.4 tons/yr for this source, with the higher exhaust flow rate of 950 acfm. As a result, the Plant is not requesting any changes in the current Title V permit limits of 0.1 lb/hr and 0.4 tons/yr.

U39 – Impact Mill Screen

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Screen (E50) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD29.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U39) was not provided in the PTE calculations.

U41 – Impact Mill Feed Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Feed Bin (E52) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD31.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U41) was not provided in the PTE calculations.

U43 – Wet End Vacuum System

The Title V permit indicates a maximum exhaust flow rate of 10,000 acfm for dust collector CD35. However, the correct exhaust flow rate should be 10,500 acfm. After correcting the actual exhaust temperature of 130 ºF to the standard temperature of 70 ºF, the standard exhaust flow rate is equal to 9,432 scfm. Using an outlet concentration of 0.0065 grains/dscf, the TSP/PM_{10}/$PM_{2.5}$ emission rate is equal to 0.52 lb/hr and 2.28 tons/yr, assuming 8,760 hours of operation per year. The Plant is not requesting NJDEP to change the Title V permit limit of 0.58 lb/hr and 2.5 tons/yr.

Emission Reductions that are not Creditable Emission Reductions (DC)

The PTE for the following sources is being decreased for the Title V renewal application. The facility is not considering these emission reductions as Creditable Emission Reductions (DC). The Emission Units (U7, U11, U43) have not been in operation since November 2010 and the cessation was a result of Administrative Consent Order (ACO) NEA090002-51611.

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U7	TSP	4.9	4.93	0.00*
	PM_{10}	4.9	4.31	0.59

	$PM_{2.5}$	4.9	3.98	0.92

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U11	TSP	21.38	19.71	1.67
	PM_{10}	12.25	12.25	0.00
	$PM_{2.5}$	12.25	12.25	0.00

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U43	TSP	2.54	2.28	0.26
	PM_{10}	2.54	2.28	0.26
	$PM_{2.5}$	2.54	2.28	0.26

*TSP for U7 is represented as a zero emissions decrease because of significant figures.

Other

U51 – Crusher Building and Transfer Tower

The Title V permit associates E111 (Wobbler Separator) with Belt #11 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #11 is a reversible conveyor transfer belt that feeds material into the two Rock Bins (OS3, E45 and OS4, E46) under Emission Unit U36. Similarly, the permit associates E110 (Crusher) with Belt #10 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #10 is a conveyor transfer belt that feeds material to Belt #11 (OS5, E47) under Emission Unit U36.

The Plant requests NJDEP to change the name of U51 OS4 from the "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt". The Plant requests NJDEP to change the name of U51 OS5 from "the "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt".

IS27 – Bake-Off Oven

The Plant is planning to install an electrically heated "Bake-Off" oven that will clean residual polypropylene resin from the spinneret plates used in the Resin Extruder (U54). Testing was conducted upon the "Bake-Off" oven at Georgia-Pacific's Research and Development Laboratory in Decatur, Georgia in January 2019.

U54, OS5 – Resin Extruder

The Plant proposes to alter the language for Ref. #10 as follows:

> **Current Applicable Requirement:** The owner or operator shall monitor that the indicator light is on while CD40 is in operation to show high voltage is present. [N.J.A.C. 7:27-22.16(a)]
>
> **Proposed Applicable Requirements:** The owner or operator shall monitor that "primary voltage" (i.e., voltage >0) is being achieved while CD40 is in operation.

[N.J.A.C. 7:27-22.16(a)]

Current Monitoring Requirement:

Monitored by visual determination once per calendar day during operation. The owner or operator shall monitor the indicating light based on manufacturer's recommendations. [N.J.A.C. 7:27-22.16(o)]

Proposed Monitoring Requirement:

Monitored once per calendar day during operation. The owner or operator shall monitor the ESP's operational status via the indicating light or electronic records to verify the ESP is operating.
[N.J.A.C. 7:27-22.16(o)]

Current Recordkeeping Requirement- *no proposed change*

Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(o)]

Title V Fugitive PM Management Plan Monthly Inspection Checklist

The Plant proposes to revise the Title V Fugitive PM Management Plan Monthly Inspection Checklist located in the current Fugitive PM Management Plan, which is in the current Title V Operating Permit. The Plant proposes to remove the stormwater, tanks, and waste sections from the inspection form. The stormwater, tanks and waste inspections are already being performed, pursuant to other environmental plans and/or permits at the Camden Plant. The Plant would like to only retain the inspections specific to fugitive PM management. Please refer to Attachment G of this renewal application for the proposed monthly inspection checklist.

Emissions Summary - Significant Emisison Sources for Camden NJ Gyspum Plant, tons/yr

Source ID No.	Source Description	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOCs	Pb	CO2e
U2	Kettle Calciner No. 1	0.53	0.53	0.53	0.04	4.96	2.31	1.06	2.31E-04	7,322
U2	Kettle Calciner No. 2	0.53	0.53	0.53	0.03	4.90	4.12	0.27	6.30E-05	5,853
U2	Kettle Calciner No. 3	0.53	0.53	0.53	0.03	4.90	4.12	0.27	6.30E-05	5,853
U6[1]	Office Boiler	0.08	0.08	0.08	0.01	1.08	0.90	0.06	5.38E-06	1,284
U7	Board Dryer	4.93	4.31	4.31	0.40	33.60	40.95	24.50	2.36E-03	42,948
U8	Process Hot Water Heater [1]	0.04	0.04	0.04	0.003	0.47	0.47	0.03	2.36E-06	564
U9	Soap Tank	---	---	---	---	---	---	0.16	---	---
U10	End Saws [1]	2.70	2.70	1.41	---	---	---	---	---	---
U11	Rotary Rock Dryer	19.71	12.25	12.25	1.02	9.32	2.33	0.37	3.33E-05	10,674
U14	LP Bin #4 & Landplaster Bulk Loading	0.05	0.05	0.05	---	---	---	---	---	---
U15	Stucco Elevators	0.77	0.77	0.77	---	---	---	---	---	---
U17	Landplaster Pneumatic Conveying Process	0.36	0.36	0.19	---	---	---	---	---	---
U18	Stucco Mixing Screw Conveyor [1]	0.14	0.14	0.07	---	---	---	---	---	---
U19	Board Stucco Silo # 1 [1]	0.14	0.14	0.07	---	---	---	---	---	---
U20	Board Stucco Silo # 2 [1]	0.14	0.14	0.07	---	---	---	---	---	---
U21	441 Screw Conveyor [1]	0.21	0.21	0.11	---	---	---	---	---	---
U22	Stucco Reserve Bin # 1 [1]	0.16	0.16	0.08	---	---	---	---	---	---
U24	Raymond Mill Nos. 1-2 [2]	1.37	1.37	1.37	1.07	3.83	7.78	1.07	1.61E-05	5,154
U26	Portland Cement Bin	0.40	0.40	0.40	---	---	---	---	---	---
U27	LP Bin No. 1 [1]	0.14	0.14	0.07	---	---	---	---	---	---
U28	LP Bin No. 2 [1]	0.14	0.14	0.07	---	---	---	---	---	---
U29	LP Bin No. 3 [1]	0.14	0.14	0.07	---	---	---	---	---	---
U30	Molding Plaster Bin [1]	0.16	0.16	0.08	---	---	---	---	---	---
U31	Stucco Cooling	4.77	4.77	2.50	---	---	---	---	---	---
U34	Steele Feeder	1.27	0.59	0.11	---	---	---	---	---	---
U35	Densite Bin	0.71	0.71	0.37	---	---	---	---	---	---
U36	Gypcrete/Rock Bin(s)	3.49	3.49	1.83	---	---	---	---	---	---
U37	Accelerator Bin	0.23	0.23	0.12	---	---	---	---	---	---
U38	Impact Mill [1]	0.15	0.15	0.08	---	---	---	---	---	---
U39	Impact Mill Screen [1]	0.15	0.15	0.08	---	---	---	---	---	---
U40	Stucco Reserve Bin # 2 [1]	0.14	0.14	0.08	---	---	---	---	---	---
U41	Impact Mill Feed Bin	0.15	0.15	0.08	---	---	---	---	---	---
U43	Wet End Vacuum System	2.28	2.28	2.28	---	---	---	---	---	---
U44	Dry End Vacuum System	1.92	1.92	1.92	---	---	---	---	---	---
U47	Reject Bin [1]	0.10	0.10	0.05	---	---	---	---	---	---
U51	Crusher Building and Transfer Belts	1.38	0.51	0.21	---	---	---	---	---	---
U53	Delumper [1]	0.06	0.02	0.01	---	---	---	---	---	---
U54	Resin Extruder [1]	0.33	0.33	0.33	---	---	---	0.66	---	---
FUG-1	Haul Roads	42.66	11.30	1.52	---	---	---	---	---	---
FUG-2	Stockpiles	2.01	1.57	1.24	---	---	---	---	---	---
	Totals	90.05	48.63	33.10	2.60	63.06	62.98	28.45	2.78E-03	79,651

[1] Emission Sources that have a potential-to-emit pollutant emission rate =< 0.05 lb/hr are not required to be added to the Plant total potential-to-emit summary, and have therefore been excluded from the total in this summary.

[2] $PM/PM_{10}/PM_{2.5}$ PTEs based on maximum of two stack testing results performed in November 2008 plus a 20% safety margin. NOx, CO, and VOC PTEs based on burner vendor guarantees.

	PM	PM_{10}	$PM_{2.5}$
PM emission without fugitives	45.38	35.75	30.34

Compliance Assurance Monitoring (CAM) Plan

General Applicability of Compliance Assurance Monitoring Rule

The Compliance Assurance Monitoring (CAM) rule is essentially a companion rule to Title V, requiring that control device operating parameters be monitored in order to demonstrate compliance with a specified emission limitation or standard. In order for the CAM Rule to apply to a pollutant-specific emission unit, the following four criteria must be met as described by 40 CFR 64.2(a):

- The emission unit must be located at a major source for which a Part 70 or Part 71 permit is required.
- The emission unit must be subject to an emission limitation or standard.
- The emission unit must use a control device to achieve compliance.
- The emission unit must have potential, pre-controlled emissions of the pollutant of at least 100 percent of the major source threshold.

The CAM Rule defines two classes of emission units: "large pollutant-specific emissions units" and "other pollutant-specific emissions units". The "large" units are those, "...with the potential to emit...taking into account control devices...the applicable regulated pollutant in an amount greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source..." The "other" units are those that are not "large" units. As such, the primary difference between the two categories is that "large" units are those that are still major (*i.e.,* greater than 100 percent of the major source threshold) after the application of controls, while the "other" units are those that are non-major (*i.e.,* less than or equal to 100 percent of the major source threshold) following the application of controls. For "large" units, the CAM rule, at 40 CFR 64.3(b)(4)(ii), requires that the owner/operator collect four or more data values equally spaced over each hour and average them over the applicable averaging period. As specified at 40 CFR 64.3(b)(4)(iii), for the "other" units, the CAM rule specifies that the data collection can be less frequent, "but the monitoring shall include some data collection at least once per 24-hour period".

The first criterion listed above is met for all pollutant-specific emission units since the Camden Plant is a major stationary source for operating permit purposes and a Part 70 (Title V) permit is required.

The second criterion is also met since each pollutant-specific emission unit at the facility is regulated under either a state rule, a federal rule, or a combination of both state and federal rules.

Based on the third criterion listed above, the CAM Rule applies to a pollutant-specific emission unit if the emission unit uses a "*control device*" to achieve compliance. It is important to understand what EPA means by the term "*control device"* under the CAM Rule, which is defined as:

> *"…equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas absorption devices), etc".*

At the Camden Plant, there are two regulated pollutant-specific emission units (U43, U44) that use baghouses to collect dust generated on the conveyors carrying wallboard into the Board Dryer (U7) (referred to as the "wet end") and on the conveyors carrying wallboard out of the Board Dryer (referred to as the "dry end"). The primary purpose of these two baghouses is to reduce employee exposure to dust and meet the Occupational Safety and Health Act (OSHA) standards, and not to comply with air pollution control regulations. EPA refers to such equipment as "*inherent process equipment"* which is defined under the CAM Rule as:

> *"…equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered a control device".*

Neither of the two baghouses operate at an efficiency higher than that achieved during normal process operations in order to comply with an applicable emission limitation or standard. Baghouses are state-of-the-art equipment that are routinely used in GP's Gypsum Plant to reduce employee exposure to dust. It should be noted that the dust collected by the baghouses is recycled and reused in the gypsum manufacturing process. For these reasons, these two baghouses are not considered to be control devices, and as a result, are exempt from the provisions of the CAM rule.

Otherwise, the Camden Plant uses a number the baghouses and one electrostatic precipitator (ESP), identified in Table 1, to achieve compliance.

Table 1. Baghouses-ESPs Used at Camden Plant			
Emission Unit No.	**Emisison Point Nos.**	**Name**	**CD #**
U2	E3	Kettle No. 1	CD1
U2	E4	Kettle No. 2	CD2
U2	E5	Kettle No. 3	CD3
U10	E10	End Saws	CD40
U11	E11	Rotary Rock Dryer	CD5
U14	E14	LP Bin #4 & Landplaster Bulk Loading	CD6
U17	E17	Landplaster Pneumatic Conveying Process	CD8
U18	E18	Stucco Mixing Screw Conveyor	CD9
U19	E19	Board Stucco Storage Silo # 1	CD10
U20	E20	Board Stucco Storage Silo # 2	CD11
U21	E21	441 Screw Conveyor	CD12
U22	E22	Stucco Reserve Storage Bin #1	CD13
U24	E24	Raymond Mill # 1	CD16
U24	E25	Raymond Mill # 2	CD18
U26	E26	Portland Cement Bin	CD19
U27	E27	Landplaster Bin No. 1	CD20
U28	E28	Landplaster Bin No. 2	CD21
U29	E29	Landplaster Bin No. 3	CD22
U30	E30	Molding Plaster Bin	CD23
U31	E31	Stucco Cooling-#1 Elevator Discharge Screw, OS2 Stucco Cooler - #1 Collecting Screw, Stucco Cooler - #1 Cross Screw, Stucco Cooler - #2 Elevator Discharge Screw, Stucco Cooler - #2 Collecting Screw, Stucco Cooler - #2 Cross Screw, Stucco Cooler - #430 Conveyor Screw; Bulk Stucco Loading Spout; Bulk Stucco Handling Elevator, Bulk Stucco Handling Sifter, Barrel Separator.	CD24
U35	E35	Densite® Bin	CD25
U36	E43, E44, E45, E46	Gypcrete/Rock Bins	CD26
U37	E48	Accelerator Bin	CD27
U38	E49	Impact Mill Nos. 1-2	CD28
U39	E50	Impact Mill Screen	CD29
U40	E51	Stucco Reserve Bin #2	CD30
U41	E52	Impact Mill Feed Bin	CD31
U15	E66	Stucco Dry Additive Elevator	CD32
U15	E67	Stucco Scalping Screw Elevator	CD34
U43	E68	Wet End Vacuum System	CD35
U44	E69	Dry End Vacuum System	CD36
U47	E75	Reject Bin	CD39
U54	E116	Resin Extrusion	CD40

For the fourth criterion, an analysis of all the pollutant-specific emission units with baghouses was performed to determine the pre-controlled emission rates.

Based on a review of all of the pollutant-specific emission sources at the Camden Plant that utilize baghouses, the control devices shown in Table 2 are not subject to CAM because the pre-controlled particulate matter (PM), particulate matter 10 micrometers or less in aerodynamic diameter (PM_{10}), and particulate matter 2.5 micrometers or less in aerodynamic diameter ($PM_{2.5}$) emissions are less than the major source threshold of 100 tons per year for each pollutant:

Table 2. Baghouses with Uncontrolled PM/PM_{10}/$PM_{2.5}$ Emisisons Less than 100 tons/yr

			Uncontrolled Emisisons		
Emission Unit No.	Name	CD #	PM	PM_{10}	$PM_{2.5}$
			tons/yr	tons/yr	tons/yr
U10	End Saws	CD40	0.32	0.32	0.32
U17	Landplaster Pneumatic Conveying Process	CD8	35.5	35.5	18.6
U18	Stucco Mixing Screw Conveyor	CD9	14.2	14.2	7.4
U19	Board Stucco Storage Silo # 1	CD10	14.2	14.2	7.4
U20	Board Stucco Storage Silo # 2	CD11	14.2	14.2	7.4
U21	441 Screw Conveyor	CD12	21.3	21.3	11.2
U22	Stucco Reserve Storage Bin #1	CD13	15.6	15.6	8.2
U26	Portland Cement Bin	CD19	40.0	40.0	40.0
U27	Landplaster Bin No. 1	CD20	14.2	14.2	7.4
U28	Landplaster Bin No. 2	CD21	14.2	14.2	7.4
U29	Landplaster Bin No. 3	CD22	14.2	14.2	7.4
U30	Molding Plaster Bin	CD23	15.6	15.6	8.2
U35	Densite® Bin	CD25	71.3	71.3	37.3
U36	Gypcrete/Rock Bins	CD26	5.9	2.2	0.3
U37	Accelerator Bin	CD27	22.5	22.5	11.8
U38	Impact Mill Nos. 1-2	CD28	90.1	90.1	47.1
U39	Impact Mill Screen	CD29	15.0	15.0	7.9
U40	Stucco Reserve Bin #2	CD30	14.4	14.4	7.5
U41	Impact Mill Feed Bin	CD31	15.0	15.0	7.9
U15	Stucco Scalping Screw Elevator	CD32	33.2	33.2	17.3
U15	Stucco Scalping Screw Elevator	CD34	44.2	44.2	23.1
U47	Reject Bin	CD39	9.8	9.8	5.1
U54	Resin Extrusion	CD40	0.26	0.26	0.26

Therefore, the processes with baghouses that **are subject to CAM** because the pre-controlled emissions are greater than the major source threshold of 100 tons per year for PM, PM_{10}, and $PM_{2.5}$ are shown in Table 3. Table 3 also indicates the PTE emissions before and after use of the control device, as well as the normal pressure drop range that the baghouses operate at, in inches of water gauge (in, w.g.).

Table 3. Baghouses Subject to CAM Plan-Controlled and Uncontrolled Emissions										
				Uncontrolled Emisisons			Controlled Emisisons			
Emission Unit No.	Emisison Point Nos.	Name	CD #	PM Emissions	PM_{10} Emissions	$PM_{2.5}$ Emissions	PM Emissions	PM_{10} Emissions	$PM_{2.5}$ Emissions	Pressure Drop Range,
				tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	in. w.g.
U2	E3	Kettle No. 1	CD1	3,241	1,226	1,226	7.01	7.01	3.66	1 - 8
U2	E4	Kettle No. 2	CD2	3,241	1,226	1,226	6.30	6.30	3.29	1 - 8
U2	E5	Kettle No. 3	CD3	3,592	2,278	2,278	6.30	6.30	3.29	1 - 8
U11	E11	Rotary Rock Dryer	CD5	1,865	466	767	17.60	17.60	9.21	1 - 8
U14	U14	LP Bin #4 & Landplaster Bulk Loading	CD6	147	147	147	1.47	1.47	1.47	1 - 8
U24	E24	Raymond Mill # 1	CD16	307.5	307.5	307.5	5.91	5.91	3.09	1 - 8
U24	E25	Raymond Mill # 2	CD18	307.5	307.5	307.5	5.91	5.91	3.09	1 - 8
U31	E31	OS1 Stucco Cooling-#1 Elevator Discharge Screw; OS2 Stucco Cooler - #1 Collecting Screw; OS3 Stucco Cooler - #1 Cross Screw; OS4 Stucco Cooler - #2 Elevator Discharge Screw; OS5 Stucco Cooler - #2 Collecting Screw; OS6 Stucco Cooler - #2 Cross Screw; OS7 Stucco Cooler - #430 Conveyor Screw; OS8 Bulk Stucco Loading Spout; OS9 Bulk Stucco Handling Elevator; OS10 Bulk Stucco Handling Sifter; OS11 Barrel Separator.	CD24	284.3	170.5	136.4	4.90	4.90	2.56	1 - 8

The CAM Plan for these baghouses, which consists of a proposed Monitoring Plan and the justification for the approach used in the Monitoring Plan, is presented on the following pages. Since all the baghouses function similarly, only one Monitoring Plan is being proposed for all baghouses listed in Table 3.

Compliance Assurance Monitoring (CAM) Plan for Baghouses at Camden Gypsum Plant

Background

A. Emission Unit

Description:	Baghouses used for $PM/PM_{10}/PM_{2.5}$ control (see Table 3).
Identification Numbers:	CD-1, CD-2, CD-3, CD-5, CD-6, CD-16, CD-18. CD-24.

B. Applicable Regulation, Emission Limit, and Pre-CAM Monitoring Requirements

Regulation:	All baghouses at the Camden Plant are considered "Other" pollutant specific emission units under 40 CFR 64.5 (see Table 3).
CAM Emission Limits:	See Table 3
Pre-CAM Monitoring:	Monthly visible emissions observations; Daily pressure differential readings.

C. Control Technology, Capture System, Bypass, Potential-to-Emit (PTE)

Controls:	Baghouses
Capture System:	Closed dust systems or hood collection points.
Bypass:	None of these baghouses are configured to allow bypass of the control devices.
PTE before control:	see Table 3
PTE after control:	see Table 3

Rationale for Selection of Performance Indicators

When a dust-laden air stream is passed through the baghouse filter bags, the particulate matter is retained on the "dirty" side of the bags while the clean air stream passes through the bags and out the exhaust ductwork, then through a vent or stack. On a timed sequence, a "pulsejet" of compressed air is directed through the center of the bags which in turn "knocks" the particulate matter away from the bags. The collected particulate matter drops to the bottom of the baghouse into a hopper, a bin, or a screw conveyor, and the particulate matter is returned to the process. When a filter bag wears through, tears, or a seal is loose, a fine amount of visible emissions in the stack exhaust is the first evidence of a baghouse malfunction.

Rationale for Selection of Indicator Ranges

Since the opacity limits on these sources range between 7% to 20%[1], the presence of any visible emissions is judged as the most conservative indicator applicable to all the facility's baghouses. The

[1] The 7% opacity requirement is for Baghouse No. CD-24, which controls emissions from U32, OS Nos. 8, 9 and 10. The basis for the 7% opacity limit is NSPS Subpart OOO at 40 CFR 60.672(a), Table 2, 7% for dry control devices. The opacity requirement for Baghouse No. CD-1, CD-2, CD-3 is 10%. The basis for the 10% opacity limit is NSPS Subpart UUU at 40 CFR 60.732(b). The

facility's performance testing experience with these sources suggests that a lack of visible emissions is a representative indication that the applicable grain loading and mass emission limitations are also being met.

	Indicator No. 1	Indicator No. 2
Indicator	**Visible Emissions**	**Differential Pressure Drop Across Baghouse**
Monitoring Approach The presence of visible emissions is the primary indicator for these sources. Visible emissions will be monitored on a monthly basis. Normal process operations will not produce conditions that adversely affect the function of the baghouses, so no process operational parameters will be monitored. Pressure drop across the baghouses will be monitored on a daily basis as a secondary operating parameter. A trained employee familiar with normal process operations and the appearance of the exhaust from each baghouse is responsible for observing and recording visible emissions observations on a monthly basis. Pressure drop across the baghouse is recorded on a daily basis as a means to judge the dust "cake" on the bags and verify that the bags are not being unduly worn.	Visible emissions observations shall be made and recorded in accordance with the requirements specified in 40 CFR § 64.7(c). Observations for visible emissions (VE) are performed monthly pursuant to the following procedures: Visible emissions observations shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. If the unit is started up between one hour before sunset and midnight, the visible emissions observation shall be conducted as soon as practical during daylight hours the next day the unit operates. The person performing the VE check shall stand at a distance of at least 15 feet which is sufficient to provide a clear view of the plume against a contrasting background with the sun in the 140-degree sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other. The VE check shall be conducted for at least one minute.	The differential pressure drop across the baghouses will be monitored with magnehelic gauges.

20% opacity requirement is for all the baghouses listed in Table 3. The basis for the 20% opacity standard is N.J.A.C. 7:27-6.2(d) and N.J.A.C. 7:27- 6.2(e).

Indicator Range The presence of any visible emissions would be considered an excursion and trigger the operator to take corrective actions.	Indicator range is defined as the presence of visible emissions. Excursion triggers an inspection and corrective action. An excursion not corrected within 24-hours is considered a permit deviation and triggers a reporting requirement.	Indicator range is defined as a pressure differential reading between 1 and 8 inches of water. An excursion[2] triggers an inspection and corrective action. An excursion not corrected within 24-hours is considered a permit deviation and triggers a reporting requirement. Table 3 provides a list of the pressure drop ranges for all baghouses subject to the CAM Plan.
Performance Criteria		
Data Representativeness The presence of any visible emissions from a properly maintained and operating baghouse is an appropriate indicator that a bag rupture or leak has occurred, and that corrective action is necessary.	Observations of the emission point are performed while the baghouse is operating.	The differential pressure gauge is located on the baghouse. The minimum acceptable accuracy is ± 2% of the full scale at 70°F.
Verification of Operational Status		
QA/QC Practices and Criteria Employees performing visible emissions observations are trained on observing the source under the appropriate conditions (e.g. lighting, sun position, etc.) and have a detailed understanding of the proper operation of the affected sources. The records of the emissions observations are periodically reviewed by the facility environmental coordinator to verify that the notations are being properly maintained.	The observer shall be familiar with the VE procedures described above.	The differential pressure gauge is either calibrated according to the manufacturer's written procedures or replaced with a new unit annually.
Monitoring Frequency	Visible emission observations from the designated stack shall be performed monthly.	The pressure drop across the baghouse will be recorded at least once daily.
Data Collection Procedure	The visible emissions observations are documented by the observer in a log book or electronic database.	Recorded in a log book manually.
Averaging Period	Not Applicable.	Not Applicable.

[2] Excursion shall mean a departure from an indicator range established for monitoring under 40 CFR 64, consistent with any averaging period specified for averaging the results of the monitoring.

Response to Excursions: Upon observing visible emissions, an operator will check the pressure drop, pulsing system, and the baghouse housing. If these checks do not allow the operator to correct the visible emissions, maintenance will be notified immediately. A complete maintenance inspection will be initiated within 24 hours of the observation and the necessary repairs will be made as soon as judged practical by facility management and environmental staff.

Table 4 is a summary of CAM Applicability for the Camden Plant, and includes for each emission source subject to the CAM rules:

- Emission Source ID
- Emission Source Description
- Original Date of Process Equipment Installation
- Type of Control Device Used
- Pollutant(s) Controlled
- Applicable Federal/State Requirement(s)
- Regulatory Allowable Emission Rate, grains/dscf
- Statement as to NSPS Subpart OOO or Subpart UUU Applicability
- Basis for NSPS Determination
- Type of "Affected Facility" for NSPS Applicability
- Statement as to “Large” or "Other" Pollutant-Specific Emissions Unit?

Table 4. CAM Applicability										
Emission Source ID No.	Emission Source Description	Original Date of Process Equipment Installation	Applicable Requirement(s)	Regulatory Allowable Emission Rate, grains/dscf	Subject to NSPS Subpart OOO or Subpart UUU?	Basis of Determination	Type of "Affected Facility"	Control Device	Pollutant(s) Controlled	"Large" or "Other" Pollutant-Specific Emissions Unit?
U2	Kettle No. 1	1964; modified with larger burners in 2006	Federal: 40 CFR 60 Subpart UUU; State: N.J.A.C. 7:27-6.2(a)4.	Federal: Subpart UUU-0.025 grains/dscf; State: N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	Yes-Subpart UUU	Subpart UUU-Constructed/Modified after April 23, 1986	Subpart UUU-Calciner	Baghouse CD1	$PM/PM_{10}/PM_{2.5}$	"Other"
U2	Kettle No. 2	1964; modified with larger burners in 1994	Federal: 40 CFR 60 Subpart UUU; State: N.J.A.C. 7:27-6.2(a)4.	Federal: Subpart UUU-0.025 grains/dscf; State: N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	Yes-Subpart UUU	Subpart UUU-Constructed/Modified after April 23, 1986	Subpart UUU-Calciner	Baghouse CD2	$PM/PM_{10}/PM_{2.5}$	"Other"
U2	Kettle No. 3	1964; modified with larger burners in 1989	Federal: 40 CFR 60 Subpart UUU; State: N.J.A.C. 7:27-6.2(a)4.	Federal: Subpart UUU-0.025 grains/dscf; State: N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	Yes-Subpart UUU	Subpart UUU-Constructed/Modified after April 23, 1986	Subpart UUU-Calciner	Baghouse CD3	$PM/PM_{10}/PM_{2.5}$	"Other"
U11	Rotary Rock Dryer	1985	Federal: None; State: N.J.A.C. 7:27-6.2(a)4.	Federal: None State: N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	No-not subject to Subpart UUU	Subpart UUU-Constructed/Modified before April 23, 1986	Subpart UUU-Dryer	Baghouse CD5	$PM/PM_{10}/PM_{2.5}$	"Other"
U14	LP Bin #4 & Landplaster Bulk Loading	Storage Bin - 1963; Truck Loading 1996	Federal: None; State: N.J.A.C. 7:27-6.2(a)4.	Federal: None State: N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	No-not subject to Subpart OOO	Storage Bin Constructed Before August 31, 1983; Truck Loading Operation Constructed after August 31, 1983, but Open-Top Trucks are Used, which are not defined as "Affected Facilities" Under Subpart OOO	None	Baghouse CD6	$PM/PM_{10}/PM_{2.5}$	"Other"
U24	Raymond Mill # 1	1964	Federal: None; State: N.J.A.C. 7:27-6.2(a)4.	Federal: None State N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	No-not subject to Subpart UUU	Constructed/Modified before August 31, 1983	Subpart OOO-Grinding Mill	Baghouse CD16	$PM/PM_{10}/PM_{2.5}$	"Other"
U24	Raymond Mill # 2	1964	Federal: None; State: N.J.A.C. 7:27-6.2(a)4.	Federal: None State N.J.A.C. 7:27-6.2(a)4. 0.02 grains/dscf	No-not subject to Subpart UUU	Constructed/Modified before August 31, 1983	Subpart OOO-Grinding Mill	Baghouse CD18	$PM/PM_{10}/PM_{2.5}$	"Other"
U31	OS1 Stucco Cooling-#1 Elevator Discharge Screw; OS2 Stucco Cooler - #1 Collecting Screw; OS3 Stucco Cooler - #1 Cross Screw; OS4 Stucco Cooler - #2 Elevator Discharge Screw; OS5 Stucco Cooler - #2 Collecting Screw; OS6 Stucco Cooler - #2 Cross Screw; OS7 Stucco Cooler - #430 Conveyor Screw; OS8 Bulk Stucco Loading Spout; OS9 Bulk Stucco Handling Elevator; OS10 Bulk Stucco Handling Sifter; OS11 Barrel Separator.	OS1-OS7 - Pre 1983; OS8-1994; OS9-1995; OS10-1995; OS11-1989	Federal: 40 CFR 60 Subpart OOO for OS-8, OS-9, and OS-10. OS-11 is not an "affected facility" under Subpart OOO State: N.J.A.C. 7:27-6.2(a)4.	Federal: 40 CFR 60 Subpart OOO; 0.02 grains/dscf State: N.J.A.C. 7:27-6.2(a)4. 0.022 grains/dscf	Yes-Subpart OOO for OS-8, OS-9, OS-10	Constructed/Modified after August 31, 1983 and before April 22, 2008	Subpart OOO-Enclosed Truck for OS-8; Subpart OOO-Bucket Eelvator for OS-9; Subpart OOO-Screening Operation for OS-10	Baghouse CD24	$PM/PM_{10}/PM_{2.5}$	"Other"

Appendix A

Title V Fugitive PM Management Plan
Monthly Inspection Checklist
G-P Gypsum
Camden, New Jersey

☐ **Dry Weather Inspection** ☐ **Wet Weather Inspection**

Inspected By: **Date:**
Title:

Item No.	Item	N/A	Y	N	Comments/Resolution of Problems
	Note: For any item answered "N", describe in the right-hand column.				
MATERIAL STORAGE PILES					**TITLE V DUST MANAGEMENT PLAN**
	Are fugitive emissions from ship unloading occurring?				
	Are fugitive emissions from excessive wind/weather disturbances of pile occurring?				
	Are fugitive emissions from removal of material from piles occurring?				
	Is effective housekeeping occurring?				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response
1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions
1. To be corrected outside of the shift the problem was noted. WO#: _____

MATERIAL HANDLING					**TITLE V DUST MANAGEMENT PLAN**
	Are fugitive emission from loading operations occurring?				
	Are fugitive emissions from transfer operations occurring?				
	Are fugitive emissions from conveying operations occurring?				
	Are fugitive emissions from unloading operations occurring?				
	Is housekeeping at material handling occurring?				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response
1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions
1. To be corrected outside of the shift the problem was noted. WO#: _____

UNPAVED SURFACES					**TITLE V DUST MANAGEMENT PLAN**
	Are fugitive emissions at unpaved surfaces occurring?				
	Is there evidence of housekeeping?				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response
1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions
1. To be corrected outside of the shift the problem was noted. WO#: _____

PAVED SURFACES					**TITLE V DUST MANAGEMENT PLAN**
	Is carryout/tracking of mud/dirt from unpaved surfaces present?				
	Does dedicated mobile equipment remain within the gypsum storage pile?				
	Are wind-blown fugitive emissions being cause d by nearby sources, not attributed to Georgia-Pacific activities?				
	Is there evidence of housekeeping of paved surfaces?				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response
1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions
1. To be corrected outside of the shift the problem was noted. WO#: _____

GOOD HOUSEKEEPING					**TITLE V DUST MANAGEMENT PLAN**
	Are storage areas of materials, bags, and drums neat & orderly?				
	Is regular cleanup of material spillage, inside and outside of the process building occurring?				
	Is sweeping around obstacles in the paved road surface areas being completed (weather permitting)?				

	Is training provided to employees about good housekeeping?				
	[True (Y) or False (N)]: Monthly inspections of indoor and outdoor plant are completed and identify areas that may require additional attention.				

MONTHLY INSPECTION PROGRAM - GENERAL					**TITLE V DUST MANAGEMENT PLAN**
	Do these areas have the potential to cause fugitive emissions?				
	Material storage & handling areas				
	Loading & unloading areas?				
	Process areas?				
	Control equipment (bin vents/ dust collectors)?				
	Are the control measures overall effective?				
	Generally, are the good housekeeping practices overall effective?				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response

1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions

1. To be corrected outside of the shift the problem was noted. WO#: _____

PNEUMATIC SYSTEMS (CONTROL EQUIPMENT)		**TITLE V DUST MANAGEMENT PLAN**
U2 Kettle 1: OK ☐ FIX ☐	U2 Kettle 2: OK ☐ FIX ☐	U2 Kettle #3: OK ☐ FIX ☐
U14 LP Bin #4: OK ☐ FIX ☐	U22 Stucco Reserve Bin #1: OK ☐ FIX ☐	U24 Raymond Mill #1: OK ☐ FIX ☐
U24 Raymond Mill #2: OK ☐ FIX ☐	U26 Portland Cement Bin: OK ☐ FIX ☐	U27 LP Bin #1: OK ☐ FIX ☐
U28 LP Bin #2: OK ☐ FIX ☐	U29 LP Bin #3: OK ☐ FIX ☐	U30 Molding Plaster Bin: OK ☐ FIX ☐
U31 Stucco Cooling: OK ☐ FIX ☐	U35 Densite® Bin: OK ☐ FIX ☐	U36 Gypcrete Rock Bin : OK ☐ FIX ☐
U38 Impact Mill: OK ☐ FIX ☐	U39 Gypcrete Screener: OK ☐ FIX ☐	U40 Stucco Reserve Bin #2: OK ☐ FIX ☐
U41 Impact Mill Feed Bin: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐
U___ Other: _____: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐
U___ Other: _____: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐	U___ Other: _____: OK ☐ FIX ☐

PN-1	Are blow pipes or cyclones free of leaks and fugitive emissions?				
PN-2	Are the tops of cyclones free of visible excess dusting?				
PN-3	Are hi-pressure feeders free of blow-by and not dusting?				
PN-4	[True (Y) or False (N)]: There is not excessive pressure drop across any bag filters. If false, bags may be plugged up and require cleaning.				
PN-5	Are the bag filter clean air discharges free of visible dusting? (Predicts overall effectiveness of control measure.)				
PN-6	Are all inspection doors or covers closed tightly?				
PN-7	Are all rotary seal valves operating properly?				
PN-8	[True (Y) or False (N)]: No collectors and/or filters are known to be bypassed. (if false, report immediately to Environmental Coordinator.)				

Corrective Action Procedures ☐ Not Applicable

☐ Immediate Response

1. Immediately utilizing available personnel. Supervisor initiating corrective action: _____

☐ Inspector Recommending Follow-up Actions

1. To be corrected outside of the shift the problem was noted. WO#: _____

GP Industrial Plasters LLC
1101 South Front Street
Camden, NJ 08103
(856) 966 – 6900 Telephone
(856) 966 – 1475 Fax

May 31, 2019

Mr. Art Lehberger & Mr. Adam Pagarigan
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 East State Street, 2nd Floor
P.O. Box 420
Trenton, NJ 08625-0027

Re: GP Industrial Plasters LLC
Request to Increase Potential-to-Emit Emission Rates for Several Sources and Make Other Miscellaneous Minor Revisions to Title V Permit
Minor Modification to Title V Operating Permit No. BOP180001
Facility ID: 51611

Dear Mr. Lehberger and Mr. Pagarigan:

Georgia-Pacific Gypsum LLC (GP Gypsum) owns and operates a gypsum manufacturing plant in Camden, New Jersey (referred to as the "Camden Plant"). GP Gypsum's Camden Plant is categorized under the North American Industry Classification System (NAICS) No. 327420 and Standard Industrial Classification (SIC) Code 3275 for Gypsum Product Manufacturing.as an integrated facility in which gypsum plasters, gypsum specialty wallboard products are manufactured for sale to a variety of customers, although wallboard production is currently idled. The Camden Plant also produces a floor underlayment product called Soundmat, using a polypropylene resin extrusion process. The resin extrusion process is categorized under the NAICS No. 326199 and SIC Code No. 3089 for "Plastics Products, Not Elsewhere Classified". The Camden Plant also operates a reload center where gypsum wallboard manufactured by other GP Plants is shipped via rail and is reloaded to flatbed trucks for regional distribution.

GP Gypsum leases certain process equipment at the Camden Plant to GP Industrial Plasters LLC ("GP Plasters"), which conducts the gypsum plaster operations. GP Gypsum and GP Plasters both operate pursuant to Title V Operating Permit Activity Number BOP180001, issued by the New Jersey Department of Environmental Protection (NJDEP) on July 24, 2018, with an expiration date of July 27, 2020.

Reason for Application

The Plant is requesting the NJDEP to increase the potential-to-emit (PTE) emission rates for several sources at the Plant and to make several miscellaneous minor revisions to several other sources. The specific changes the Plant is requesting is summarized below:

- Changing the calculation of the PTE by using up-to-date AP-42 emission factors for certain pollutants (U8, U11);
- Changing the calculation of the PTE to using the exhaust gas flow rate from the baghouse used as a control device and an assumed outlet particulate matter (PM) concentration of 0.02 grains per dry standard cubic foot per minute instead of the method originally used (U10, U15, U17, U36, U37, U38, U39, U41);
- Changing the calculation of the PTE by using transfer and drop-point emission calculation methodology (U34);
- Crediting emission reductions (U2, U24, U51);
- Reducing PTE (U7, U11, U43);
- Changing the calculation of the PTE by using the corrected design exhaust gas flow rate for several baghouses used to control PM emissions, based on information from the baghouse vendor (U35, U43);
- Refining annual emission rates or actual emission rates without impacting PTE (U22, U24, U26, U39, U41, U43);
- Correction of transcription errors in the Title V permit (U15, U17);
- Reducing usage of ultra-low sulfur diesel fuel oil (U11, U24);
- Change U51 OS4 from "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt";
- Change U51 OS5 from "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt";
- Removing Insignificant and Significant Sources (IS22, IS23, U15, U23, U42, U52);
- Addition of Insignificant Source, a pyrolysis unit for polypropylene parts cleaning with a production rate <50 lb/hr (IS27).

This Minor Title V modification application includes the attachments listed below, each of which have been included in the New Jersey Department of Environmental Protection (NJDEP) Online Portal submittal.

Attachment A: RADIUS Application (as a PDF)
Attachment B: eNAT Subchapter 18
Attachment C: Risk Screening Worksheets (3)
Attachment D: Emission Calculations

Emission Calculations and Other Miscellaneous Revisions

Following is a description of the detailed changes impacting Potential-to-Emit (PTE); which include both increases and decreases. Also provided are notable changes (nomenclature, changes to emission rates not impacting PTE, other changes) being requested as part of this Minor Title V Modification. *Attachment D* contains the detailed emission calculations.

Changes Impacting Potential-To-Emit (PTE)

Emission Increases

U8 – Process Water Heater

Using current AP-42 emission factors for CO for industrial boilers burning natural gas with a heat input rating less than 100 MM Btu/hr, or 84 lb CO/MM scf, a heat content value for natural gas of 1,020 Btu/scf, and a heat input rating of 1.68 MM Btu/hr for the burner, the hourly CO emission rate is 0.14 lb/hr (0.082 lb/MM Btu) compared to the Permit limit of less than 0.05 lb/hr. Similarly, due to a change in the hourly CO emission rate, the annual CO emission rate will increase above the current permit limit of 0.26 tons/yr to 0.40 tons/yr, based on a maximum natural gas usage rate of 9,636 MM Btu/yr. GP requests NJDEP to increase the CO permit limit to 0.14 lb/hr and 0.40 tons/yr. GP is not requesting any changes in the CO permit limits that apply when firing ULSD fuel oil.

U10 – Board End Saw

The Plant requests NJDEP to increase the Title V TSP permit limit for the Board End Saw (E10) from less than 0.05 lb/hr and 0.22 tons/yr to 0.62 lb/hr (TSP/PM_{10}), 0.32 lb/hr ($PM_{2.5}$) and 2.7 tons/yr and 1.41 tons/yr, respectively. This source is controlled by baghouse CD4.

This is based on calculating the TSP/PM_{10} emission rate as shown below:

lb TSP/PM_{10}/hr = 0.02 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.62 lb/hr
tons TSP/PM_{10}/yr = 0.62 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 2.70 tons/yr

lb $PM_{2.5}$/hr = 0.010 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.32 lb/hr
tons $PM_{2.5}$/yr = 0.32 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.41 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 3,800 acfm and multiplying it by correcting the actual temperature of 100 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U11 – Rock Dryer

The Plant is requesting NJDEP to lower the allowable use of ultra-low sulfur fuel oil from 956,900 gallons per year to 932,000 gallons per year. This is being done to ensure the Plant can meet the Title V permit NO_x emission limit of 9.32 tons per year, using the latest NO_x emission factor for the Rock Dryer burner from AP-42, for natural gas firing.

The Plant also requests NJDEP to raise the VOC limit for natural gas firing from 0.07 lb/hr to 0.1375 lb/hr and from 0.18 tons/yr to 0.37 tons/yr, based on using the latest VOC emission factor from AP-42, for natural gas firing.

U15 – Stucco Elevators

Scalping Screw Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Stucco Scalping Screw Elevator (OS3, E66) from less than 0.05 lb/hr to 0.076 lb/hr. This source is controlled by baghouse CD32.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 441.7 dscfm x 60 min/hr / 7,000 grains/lb = 0.076 lb/hr
tons TSP/yr = 0.076 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.33 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

Dry Additives Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Dry Additives Elevator (OS4, E59) from less than 0.05 lb/hr to 0.10 lb/hr. This source is controlled by baghouse CD34.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 589 dscfm x 60 min/hr / 7,000 grains/lb = 0.10 lb/hr
tons TSP/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.44 tons/yr

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD34, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Dry Additives Elevator, is 667 acfm (589 dscfm), and not 1,200 acfm, as stated on Page 640 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 667 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to revise the gypsum processing rate for the Dry Additives Elevator (OS4, E59) from 10,000 lbs/hr and 43,800 tons/yr as indicated under Reference Nos. 3-4 in the Title V permit to 100,000 lbs/hr and 438,000 tons/yr. The higher gypsum processing rates are the correct rates for this source and match the processing rates for the other stucco elevators listed under Emission Unit U15. The 10,0000 lbs/hr and 43,800 tons/yr values appear to be transcription errors.

U17 – Landplaster Pneumatic Conveying Process

The Plant requests NJDEP to increase the Title V TSP permit limit for the Landplaster Pneumatic Conveying Process (E17) from less than 0.05 lb/hr and 0.22 tons/yr to 0.081 lb/hr and 0.36 tons/yr. This source is controlled by baghouse CD8.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 473 dscfm x 60 min/hr / 7,000 grains/lb = 0.081 lb/hr
tons TSP/yr = 0.081 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.36 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 100 ^{o}F to 70 ^{o}F standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the total material transferred rate from 4,380 tons/yr as indicated under Reference No. 8 in the Title V permit to 43,800 tons/yr. The 4,380 appears to be a transcription error since the hourly material processing rate of 10,000 lbs/hr multiplied by 8,760 hrs/yr and divided by 2,000 lbs/ton should be 43,800 tons/yr and not 4,380 tons/yr.

U34 – Steele Feeder

The Plant requests NJDEP to increase the Title V TSP permit limit for the Steele Feeder (E40, E104) from less than 0.05 lb/hr and 0.22 tons/yr to 0.29 lb/hr (TSP) and 0.14 lb/hr (PM_{10}), and 1.27 tons/yr and 0.59 tons/yr, respectively. $PM_{2.5}$ remains below the reporting threshold of 0.05 lb/hr.

This is based on calculating the TSP emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb TSP/hr = 0.0055 lb/ton x 50 ton/hr = 0.27 lb/hr
E104 lb TSP/hr = 0.003 lb/ton x 50 ton/hr x 90% efficiency = 0.02 lb/hr

E40 tons TSP/yr = 0.27 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.20 tons/yr
E104 tons TSP/yr = 0.02 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.07 tons/yr

tons TSP/yr = 1.20 tons/yr + 0.07 tons/yr = 1.27 tons/yr

This is based on calculating the PM_{10} emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb PM_{10}/hr = 0.0026 lb/ton x 50 ton/hr = 0.13 lb/hr
E104 lb PM_{10}/hr = 0.0011 lb/ton x 50 ton/hr x 90% efficiency = 0.01 lb/hr

E40 tons PM_{10}/yr = 0.13 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.57 tons/yr
E104 tons PM_{10}/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.02 tons/yr

tons PM_{10}/yr = 0.57 tons/yr + 0.02 tons/yr = 0.59 tons/yr

U35 – Densite® Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD25, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Densite® Bin, is 950 acfm (950 dscfm), and not 300 acfm, as stated on Page 649 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018. The change to a higher baghouse exhaust flow rate increases the TSP PTE emission rate to 0.163 lb/hr as shown below:

lb TSP/hr = 0.02 grains/dscf x 950 dscfm x 60 min/hr / 7,000 grains/lb = 0.163 lb/hr
tons TSP/yr = 0.163 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.714 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^{o}F is the same as the standard temperature of 70 ^{o}F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant requests NJDEP to increase the Title V TSP permit limit for the Densite® Bin (E42) from less than 0.05 lb/hr and 0.22 tons/yr to 0.163 lb/hr and 0.714 tons/yr.

U36 – Gypcrete/Rock Bin(s)

The Plant requests NJDEP to increase the Title V TSP permit limit for the Gypcrete/Rock Bin(s) (OS Summary) from 0.77 lbs/hr and 3.37 tons/yr to to 0.80 lbs/hr and 3.49 tons/yr.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 4,649 dscfm x 60 min/hr / 7,000 grains/lb = 0.80 lb/hr.
tons TSP/yr = 0.80 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 3.49 tons/yr

The Gypcrete/Rock Bin(s) use a baghouse (CD26) with an exhaust fan rated at 5,000 acfm to collect dust generated from the loading of the bins. The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 5,000 acfm and multiplying it by correcting the actual temperature of 110 ^{o}F to 70 ^{o}F standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the Title V TSP permit limit for the #1 Rock Bin Transfer - 11 Belt (OS3, E45), #2 Rock Bin Transfer - 11 Belt (OS4, E46), and the Rock Transfer – 10 Belt to 11 Belt (OS5, E47) from less than 0.05 lb/hr and 0.22 tons/yr to 0.059 lb/hr and 0.26 tons/yr.

This is based on calculating the TSP emission rate as shown below:

Emission Factors from AP-42, for controlled conveyor transfer points, Table 11.19.2-2:

TSP = 0.00014 lb/ton gypsum processed
TSP = 0.00014 lb/ton x 140 ton/hr x 3 conveyor drop points = 0.059 lb/hr
TSP = 0.059 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.26 tons/yr

See detailed emission calculations for PM_{10} and $PM_{2.5}$ values.

U37 – Accelerator Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Accelerator Bin (E48) from less than 0.05 lb/hr and 0.22 tons/yr to 0.051 lb/hr and 0.225 tons/yr. This source is controlled by baghouse CD27.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr
tons TSP/yr = 0.051 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.22 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U38 – Impact Mill

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Nos. 1-2 (E48, E70) from less than 0.05 lb/hr and 0.22 tons/yr to 0.206 lb/hr and 0.902 tons/yr. This source is controlled by baghouse CD28.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 1,200 dscfm x 60 min/hr / 7,000 grains/lb = 0.206 lb/hr
tons TSP/yr = 0.206 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.902 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 1,200 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to change the identification number of the baghouse used to control emissions from the Molding Plaster Bin Elevator OS3 (E61) from CD28 to CD23 only. CD31 controls emissions from the Impact Mill Feed Bin to the Impact Mill (E52) and the Impact Mill Feed Bin Elevator (E60) and is initially listed on Page 208 of 272 in Permit No. BOP180001, issued on 7-24-2018.

Creditable Emission Reductions

U2 – Kettle Calciners #1, #2 and #3

U2		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Kettle #1 & Kettle #2 & Kettle #3 (combined)	From BOP180001	2.94	2.94	2.94
	Proposed Renewal Values*	2.78*	2.78*	2.78*
	Reduction	*0.16*	*0.16*	*0.16*

U24 – Raymond Mill #1 and Raymond Mill #2

U24		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Raymond Mill #1 & Raymond Mill #2 (combined)	From BOP180001	2.55	2.55	2.55
	Proposed Renewal Values*	1.28*	1.28*	1.28*
	Reduction	*1.27*	*1.27*	*1.27*

U51 – Crusher Building and Transfer Tower

U51		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Crusher Building & Transfer Tower	From BOP180001	5.06	3.48	3.48
	Proposed Renewal Values*	1.38*	1.38*	1.38*
	Reduction	*3.68*	*2.10*	*2.10*

**Reference Attachment D – Emission Calculations for complete emission factors and calculation methodology.*

Emission Reductions that are not Creditable Emission Reductions (DC)

The PTE for the following sources is being decreased for the renewal. The facility is not considering the emission reductions as Creditable Emission Reductions (DC). The Emission Units (U7, U11, U43) have not been in operation since November 2010 and the cessation was a result of Administrative Consent Order (ACO) NEA090002-51611.

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U7	TSP	4.9	4.93	0.00*
	PM_{10}	4.9	4.31	0.59
	$PM_{2.5}$	4.9	3.98	0.92

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U11	TSP	21.38	19.71	1.67
	PM_{10}	12.25	12.25	0.00
	$PM_{2.5}$	12.25	12.25	0.00

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U43	TSP	2.54	2.28	0.26
	PM_{10}	2.54	2.28	0.26
	$PM_{2.5}$	2.54	2.28	0.26

***TSP for U7 is represented as a zero decrease because of significant figures.**

Notable Changes

Emission Units No Longer Onsite and/or Removed from Service

Table C-1 summarizes those emission sources that are no longer onsite or permanently removed from service and that should be removed from the Title V permit. The Plant has disconnected the electric power connection and taken other steps to isolate and demonstrate inoperability for any units that have been permanently shut down and removed from service but remain onsite.

Table C-1 Emission Units No Longer Onsite and/or Removed from Service		
Emission Unit	**Emission Unit Description**	
IS22	**Temporary Diesel Generator (< 1 MM Btu/hr max. heat input, < 37 kw)**	**No longer onsite - remove from permit.**
IS23	**Temporary Storage Silo (< 2000 ft^3 capacity)**	**No longer onsite - remove from permit.**
U15	**Stucco Supply Elevator (E15); Stucco Recirculating Elevator (E16); Stucco Weigh Belt (E67).**	**All three units permanently shut down and removed from service – remove from permit.**
U23	**Pin Mixer**	**No longer onsite - remove from permit**
U42	**Ball Mill Nos. 1-4**	**Nos. 2-4 No longer onsite; No. 1 permanently shut down and removed from installation - remove all 4 ball mills from permit.**
U52	**Temporary Discharge Auger # 1**	**No longer onsite - remove from permit.**

Nomenclature Changes

The Plant requests the following revisions to the descriptions of several emission sources to match the descriptions commonly used by Plant personnel:

Emission Unit	Current Description in BOP180001	Proposed Description in Title V permit
U14	**LP Reserve Bin & Landplaster Bulk Loading**	**LP Bin #4 & Landplaster Bulk Loading**
U26	**Portland Cement Bin (aka Reserve Bin #4)**	**Portland Cement Bin**
U30	**Molding Plaster Bin/**	**Molding Plaster Bin**
U34	**Reclaim Feeder and Belt Conveyor**	**Steele Feeder**
U35	**Dens Cal Feed Bin**	**Densite® Feed Bin**
U36	**Blender/Packer System**	**Gypcrete/Rock Bin(s)**
U37	**Landplaster Bin #4 (aka Board Plant Landplaster Bin)**	**Accelerator Bin**
U47	**Reject Bin Dust Collector**	**Reject Bin**
U53	**Franklin Miller DeLumper**	**DeLumper**

Changes to Emission Rates That Do Not Increase the PTE (IA)

U22 – Stucco Reserve Storage Bin #1

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD13, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Stucco Reserve Storage Bin # 1, is 220 acfm (208 dscfm), and not 200 acfm, as stated on Page 644 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24,

2018. This change only slightly increases the TSP PTE emission rate as shown below, which remains below the NJDEP's reporting threshold of 0.05 lb/hr in Appendix to N.J.A.C. 7:27-22:

lb TSP/hr = 0.02 grains/dscf x 208 dscfm x 60 min/hr / 7,000 grains/lb = 0.036 lb/hr
tons TSP/yr = 0.036 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.16 tons/yr

U24 – Raymond Mill Nos. 1 and 2

The Plant requests NJDEP to increase the hourly NO_x permit limit from 0.57 lbs/hr to 0.61 lbs/hr when firing ultra-low sulfur diesel (ULSD) fuel oil. This is based on using the ULSD fuel NO_x emission factor of 0.1216 lb/MM Btu for the burner and a maximum firing rate of 5.0 MM Btu/hr. The Plant is not requesting a change in the annual NO_x permit limit of 3.83 tons/yr when firing ULSD fuel.

The Plant requests NJDEP to reduce the allowable ULSD fuel oil usage rate from 479,323 gal/yr to 450,000 gal/yr to meet the NO_x permit limit of 3.83 tons/yr for both Mills based on the ULSD fuel NO_x burner emission factor.

U26 – Portland Cement Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD19, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Portland Cement Bin is 950 acfm (846 dscfm), and not 750 acfm, as stated on Page 645 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The Plant has taken a voluntary limit of 0.1 lbs TSP/PM_{10}/$PM_{2.5}$/hr and 0.4 tons TSP/PM_{10}/$PM_{2.5}$/yr for this source. The Plant will continue to accept a voluntary limit of 0.1 lbs/hr and 0.4 tons/yr for this source, with the higher exhaust flow rate of 950 acfm. As a result, the Plant is not requesting any changes in the current Title V permit limits of 0.1 lb/hr and 0.4 tons/yr.

U39 – Impact Mill Screen

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Screen (E50) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD29.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^oF is the same as the standard temperature of 70 ^oF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U39) was not provided in the PTE calculations.

U41 – Impact Mill Feed Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Feed Bin (E52) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD31.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^{o}F is the same as the standard temperature of 70 ^{o}F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U41) was not provided in the PTE calculations.

U43 – Wet End Vacuum System

The Title V permit indicates a maximum exhaust flow rate of 10,000 acfm for dust collector CD35. However, the correct exhaust flow rate should be 10,500 acfm. After correcting the actual exhaust temperature of 130 ^{o}F to the standard temperature of 70 ^{o}F, the standard exhaust flow rate is equal to 9,432 scfm. Using an outlet concentration of 0.0065 grains/dscf, the TSP/PM_{10}/$PM_{2.5}$ emission rate is equal to 0.52 lb/hr and 2.28 tons/yr, assuming 8,760 hours of operation per year. The Plant is not requesting NJDEP to change the Title V permit limit of 0.58 lb/hr and 2.5 tons/yr.

Other Changes

U51 – Crusher Building and Transfer Tower

The Title V permit associates E111 (Wobbler Separator) with Belt #11 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #11 is a reversible conveyor transfer belt that feeds material into the two Rock Bins (OS3, E45 and OS4, E46) under Emission Unit U36. Similarly, the permit associates E110 (Crusher) with Belt #10 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #10 is a conveyor transfer belt that feeds material to Belt #11 (OS5, E47) under Emission Unit U36.

The Plant requests NJDEP to change the name of U51 OS4 from the "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt". The Plant requests NJDEP to change the name of U51 OS5 from "the "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt".

IS27 – Bake-Off Oven

The Plant is planning to install an electrically heated "Bake-Off" oven that will clean residual polypropylene resin from the spinneret plates used in the Resin Extruder (U54). Testing was conducted upon the "Bake-Off" oven at Georgia-Pacific's Research and Development Laboratory in Decatur, Georgia in January 2019.

Net Emission Increase Calculations

Per New Jersey Administrative Code Title 7, Chapter 27, Subchapter 18.7 of the (N.J.A.C. 7:27-18.7), an applicant must determine whether a potential emission rate proposed in a permit application would result in a significant net emission increase at the facility. Since this application has proposed potential increases in several pollutant emission rates, the Camden Gypsum Plant[1] is required to calculate the emissions increases and decreases that have occurred during the contemporaneous period[2].

The net emission increase is calculated using a specific formula listed under N.J.A.C. 7:27-18.7. The net emissions changes for each pollutant are then compared to the significant net emission increase levels in Table 3 of Subchapter 18.7.

A summary of the potential pollutant emission increases, the net emission increases and decreases from the contemporaneous period, and a comparison to the significant net emission increase thresholds are shown in Table 1.

Table. 1. Summary of Proposed Emission Increases (in tons per year)

Net Emissions Increases							
Pollutant	**TSP**	**PM_{10}**	**$PM_{2.5}$**	**VOCs**	**CO**	**NO_x**	**SO_2**
U8 - Process Hot Water Heater	---	---	---	---	0.14	---	---
U10 - Board End Saw	2.7	2.7	1.41	---	---	---	---
U11 - Rotary Rock Dryer	---	---	---	0.19	---	---	---
U15 - Stucco Elevators	0.77	0.77	0.77	---	---	---	
U17 - LP Pneumatic Conveying Process	0.14	0.14	0.07	---	---	---	---
U34 - Steele Feeder	1.27	0.59	0.11	---	---	---	---
U35 - Densite® Bin	0.49	0.49	0.15	---	---	---	---
U36 - Gypcrete/ Rock Bin(s)	0.12	0.12	0.06	---	---	---	---
U37 - Accelerator Bin	0.01	0.01	0.00	---	---	---	---
U38 - Impact Mill	0.90	0.90	0.90	---	---	---	---
Net Emissions Increase (IA)	6.40	5.72	3.48	0.19	0.14	0.00	0.00
Contemporaneous Period (06/01/2014 - 05/01/2019)	7.27	6.79	6.79	0.71	0.26	0.54	0.02
Creditable Emission Reductions (DC)	5.11	3.53	3.53	---	---	---	---
Toal Subchapter 18 Net Emission Increases (NI)[1]	8.56	8.98	6.74	0.90	0.40	0.54	0.02
Significant Net Emission Increase Thresholds (Table 3 of 7:27-18.7)	25	15	10	25	100	25	40

As shown in Table 1, the total net emission increase calculations show that none of the proposed increases in the PTE emission rates, in conjunction with the contemporaneous emissions increases, do not exceed any of the significant net increase thresholds, and as a result, the project does not result in a significant net emissions increase.

[1] The Camden Gypsum Plant includes all process equipment that comprises the Wallboard manufacturing operation as well as all process equipment that comprises the plaster manufacturing operation.

[2] The contemporaneous period, as defined under N.J.A.C. 7:27-18.1 means, in respect to newly constructed, reconstructed, or modified equipment, or a change in method of operation, occurring within a time period which includes:

1. The five years prior to the commencement of construction; and
2. The period between the commencement of the construction and the initiation of operation of the newly constructed, reconstructed, or modified equipment.

N.J.A.C 7.27-22.23 – Minor Modifications, applies when changes are made to an operating permit "which may increase actual emissions by an insignificant amount, and other changes which do not increase emissions, but may increase ambient concentrations of air contaminants." The changes proposed herein meet this definition and will be considered a minor modification. Additionally, as stated under this rule, an application for a preconstruction permit will not be required and the proposed changes will be incorporated into the Title V operating permit under this subpart.

The Title V permit contains the specific conditions that address monitoring and recordkeeping requirements for each of the emission sources that are part of this application.

GP understands that this Minor Title V Application will be reviewed and processed while the NJDEP reviews the Title V renewal application. Therefore, GP understands that the proposed increases in the PTE emission rates will not take effect until such time that a final Title V permit is renewed and issued by NJDEP.

If you have any questions regarding this application, please contact Ms. Ellen Speace at (856) 963-6936, (856) 397-7051, or by e-mail at ellen.speace@gapac.com.

Sincerely,

Robert P. Christensen, III
GP Industrial Plasters LLC
Plant Manager, Camden, NJ

enclosures: Attachment A: RADIUS Application (as a PDF)
Attachment B: eNAT Subchapter 18
Attachment C: U8, U11 & U24 Risk Screening Worksheets (3)
Attachment D: Emission Calculations

Attachment A
RADIUS Application (as a PDF)

Attachment B
eNAT Subchapter 18

Attachment C
Risk Screening Worksheets (3)

Attachment D

Emission Calculations

Georgia-Pacific

GP Industrial Plasters LLC
1101 South Front Street
Camden, NJ 08103
(856) 966 – 6900 Telephone
(856) 966 – 1475 Fax

June 28, 2019

Mr. Art Lehberger and Mr. Adam Pagarigan
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 East State Street, 2nd Floor
P.O. Box 420
Trenton, NJ 08625-0027

Re: GP Industrial Plasters LLC
Revised HAPs/TXSs for Emission Calculations
Permit Activity Nos. BOP190002, BOP190003
Facility ID: 51611

Dear Mr. Pagarigan and Mr. Lehberger:

Following email correspondence dated Tuesday June 18 from Mr. Art Lehberger regarding Facility-Wide Risk Assessment & Air Toxics Emission Limits, Georgia-Pacific recognized various calculation errors when originally presenting HAPs/TXSs hourly emission rates and Potential-to-Emit (PTE) to the Department. This cover letter references the updates to the Emission Calculations to BOP190002 (Renewal) and BOP190003 (Significant Modification).

The calculation of the potential-to-emit (PTE) formaldehyde emissions from firing ultra-low sulfur diesel (ULSD) fuel oil in each of the Plant's combustion sources were prepared incorrectly, resulting in PTEs 140x greater than they should have been. There were a few other revisions made, all of which are explained on the "HAP Emissions-Significant" tab on the attached spreadsheet.

The Plant requests that the emission calculations associated with Submittals BOP190002 and BOP19003 submitted May 31, 2019 be withdrawn and replaced with revised emission calculations submitted via the NJDEP Online Portal Georgia-Pacific understands the Department will assign new Permit Activity numbers to the permit renewal and significant modification as a result of these two actions.

If you have any questions regarding this application, please contact Ms. Ellen Speace at (856) 963-6936 or Mr. Matthew Stresing at (404) 652-6026.

Sincerely,

Robert P. Christensen, III
GP Industrial Plasters LLC
Plant Manager, Camden, NJ

enclosures: Revised Emission Calculations (emailed as Excel File)

Georgia-Pacific Gypsum LLC (51611)

Date: 5/31/2019

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 180001

Description of Modifications: The Plant is requesting the NJDEP to increase the potential-to-emit (PTE) emission rates for several sources at the Plant and to make several miscellaneous minor revisions to several other sources. The specific changes the Plant is requesting is summarized below:

- Changing the calculation of the PTE by using up-to-date AP-42 emission factors for certain pollutants (U8, U11);

- Changing the calculation of the PTE to using the exhaust gas flow rate from the baghouse used as a control device and an assumed outlet particulate matter (PM) concentration of 0.02 grains per dry standard cubic foot per minute instead of the method originally used (U10, U15, U17, U36, U37, U38, U39, U41);

- Changing the calculation of the PTE by using transfer and drop-point emission calculation methodology (U34);

- Crediting emission reductions (U2, U24, U51);

- Reducing PTE (U7, U11, U43);

- Changing the calculation of the PTE by using the corrected design exhaust gas flow rate for several baghouses used to control PM emissions, based on information from the baghouse vendor (U35, U43);

- Refining annual emission rates or actual emission rates without impacting PTE (U22, U24, U26, U39, U41, U43);

- Correction of transcription errors in the Title V permit (U15, U17);

- Reducing usage of ultra-low sulfur diesel fuel oil (U11, U24);

- Changing U51 OS4 from "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt";

- Changing U51 OS5 from "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt";

- Removing Insignificant and Significant Sources (IS22, IS23, U15, U23, U42, U52);

- Addition of Insignificant Source, a pyrolysis unit for polypropylene parts cleaning with a production rate <50 lb/hr (IS27).

Please see the cover letter of the permit application for additional details.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Georgia-Pacific Gypsum LLC **Facility ID (AIMS):** 51611

Street Address: 1101 SOUTH FRONT ST
CAMDEN, NJ 08103

Mailing Address: ROBERT CHRISTENSEN
1101 SOUTH FRONT ST
CAMDEN, NJ 08103

State Plane Coordinates:

X-Coordinate:	1,869,725
Y-Coordinate:	400,039
Units:	Feet
Datum:	Unknown
Source Org.:	Other/Unknown
Source Type:	Hard Copy Map

County: Camden

Location Description: Lat/Long: 39,55,52/75,07,49

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	327420

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Georgia-Pacific Gypsum LLC
Org. Type: LLC
Name: Ellen Speace
NJ EIN:
Title: Environmental Coordinator
Phone: (856) 963-6936 x0000
Fax: (856) 964-2868 x0000
Other: ( ) - x
Type:
Email: ellen.speace@gapac.com
Mailing Address: 1101 South Front St
Camden, NJ 08103

Contact Type: Fees/Billing Contact

Organization: Georgia-Pacific Gypsum LLC
Org. Type: LLC
Name: Robert Christensen
NJ EIN:
Title: Plant Manager
Phone: (856) 963-6931 x
Fax: (856) 964-2868 x
Other: ( ) - x
Type:
Email: robert.christensen@gapac.com
Mailing Address: 1101 South Front Street
Camden, NJ 08103

Contact Type: Responsible Official

Organization: Georgia-Pacific Gypsum LLC
Org. Type: LLC
Name: Robert Christensen
NJ EIN:
Title: Plant Manager
Phone: (856) 963-6931 x
Fax: (856) 964-2868 x
Other: ( ) - x
Type:
Email: robert.christensen@gapac.com
Mailing Address: 1101 South Front Street
Camden, NJ 08103

Georgia-Pacific Gypsum LLC (51611) Date: 5/31/2019

New Jersey Department of Environmental Protection
Facility Profile (Permitting)

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	Yes
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	No
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	Yes
8. Have you submitted a netting analysis?	Yes
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	
12. Have you provided, or are you planning to provide air contaminant modeling?	No

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

Facility Information → Facility PI: 51611 Facility Name: Georgia-Pacific Industrial Plasters LLC BOP Activity: 180001

Calculation of NI for this Permit Action - NO DATA ENTRY REQUIRED

This table is automatically populated after Table 1 and Table 2 below are completed.

Air Contaminant	IP Emission Increase from Permitted Sources	INP Emission Increase from Non-Permitted Sources	IF Emission Increase from Fugitive Emissions	IA Emission Increase from the Current Modification	DO Emission Decrease from Emission Offsets	DC Emission Decrease from Creditable Emission Reductions	NI Net Emission Increase at the Facility	Significant Net Emission Increase Thresholds (N.J.A.C. 7:27-18.7 Table 3)	Significant Net Emission Increase? Yes/No
VOC	0.71	0.00	0.00	0.19	0.00	0.00	0.90	25	No
NOx	0.54	0.00	0.00	0.00	0.00	0.00	0.54	25	No
CO	0.26	0.00	0.00	0.14	0.00	0.00	0.40	100	No
SO2	0.02	0.00	0.00	0.00	0.00	0.00	0.02	40	No
TSP	7.27	0.00	0.00	6.40	0.00	5.11	8.57	25	No
PM10	6.79	0.00	0.00	5.72	0.00	3.53	8.99	15	No
PM2.5	6.79	0.00	0.00	3.48	0.00	3.53	6.74	10	No

Table 1 - Calculation of Total IA for this Permit Action (Modification or GOP) - ENTER ALL DATA FOR THIS PERMIT ACTION

Equipment ID	Emission Unit / Batch Process	Equipment Description	Start of Constr. Date	Start of Operation Date	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY	PM10 TPY	PM2.5 TPY
E8	U8	Process Water Heater	5/31/2019	5/31/2019			0.14				
E10	U10	Board End Saw	5/31/2019	5/31/2019					2.70	2.70	1.41
E11	U11	Rotary Rock Dryer	5/31/2019	5/31/2019	0.19						
E17	U17	LP Pneumatic Conveying Process	5/31/2019	5/31/2019					0.14	0.14	0.07
E40, E104	U34	Steele Feeder	5/31/2019	5/31/2019					1.27	0.59	0.11
E42	U35	Densite® Bin	5/31/2019	5/31/2019					0.49	0.49	0.15
E43 - E46	U36	Gypcrete/ Rock Bin(s)	5/31/2019	5/31/2019					0.12	0.12	0.06
E48	U37	Accelerator Bin	5/31/2019	5/31/2019					0.01	0.01	0.00
E48, E70	U38	Impact Mill	5/31/2019	5/31/2019					0.90	0.90	0.90
E59, E66	U15	Stucco Elevators	5/31/2019	5/31/2019					0.77	0.77	0.77
				Totals for this Permit Action (IA):	0.19	0.00	0.14	0.00	6.40	5.72	3.48

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

Table 2 - Total IP, INP, IF, DO, & DC for the Contemporaneous Period – ENTER ALL DATA FOR THE CONTEMPORANEOUS PERIOD SHOWN BELOW

Contemporaneous Period Start:	1/1/2014	Contemporaneous Period End:	5/31/2019

Use the Equipment ID drop-down filter to uncheck blank rows before printing.

Equipment ID	Emission Unit / Batch Process	Equipment Description	BOP Activity	Permit Approval Date	Netting Term	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY
E115 - E120	U54	Resin Extrusion Process	BOP170002	4/2/2018	IP	0.66				0.26
	IS24	Three (3) Slitters (each	BOP170002	4/2/2018	IP					0.01
E113	U53	Feed Hopper	BOP160002	6/26/2017	IP					0.06
E114	U53	DeLumper/Discharge Auger	BOP160002	6/26/2017	IP					0.10
	IS22	Temporary Diesel Generator (< 1 MMBtu/hr	BOP160001	11/14/2016	IP	0.03	0.22	0.13	0.02	0.02
	IS23	Temporary Storage Silo (< 2000 ft^3	BOP160001	11/14/2016	IP					0.00
E112	U52	Temporary Discharge Auger #1	BOP160001	11/14/2016	IP					1.53
	IS26	Four (4) Natural Gas-Fired Space Heaters (0.2	BOP170002	5/1/2018	IP	0.02	0.32	0.13	0.00	0.01
E14, E38	U14	Landplaster Bulk Loading System	BOP190001	5/1/2019	IP					1.41
E71	U31	Stucco Cooling System	BOP190001	5/1/2019	IP					3.88
E3 - E5	U2	Kettle Calciners #1, #2 and #3	this modification	5/31/2019	DC					0.16
E24, E25	U24	Raymond Mill #1 and Raymond Mill #2	this modification	5/31/2019	DC					1.27
E107-E111	U51	Crusher Building and Transfer Tower	this modification	5/31/2019	DC					3.68

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

Equipment ID	Emission Unit / Batch Process	Equipment Description	BOP Activity	Permit Approval Date	Netting Term	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

Equipment ID	Emission Unit / Batch Process	Equipment Description	BOP Activity	Permit Approval Date	Netting Term	VOC TPY	NOx TPY	CO TPY	SO2 TPY	TSP TPY

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

PM10 TPY	PM2.5 TPY
0.26	0.26
0.01	0.01
0.02	0.02
0.05	0.05
0.02	0.02
0.00	0.00
0.72	0.72
0.03	0.03
1.41	1.41
4.28	4.28
0.16	0.16
1.27	1.27
2.10	2.10

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

PM10 TPY	PM2.5 TPY

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

PM10 TPY	PM2.5 TPY

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

NETTING ANALYSIS RESULTS

Consistent with N.J.A.C. 7:27-18.7

NJDEP DIVISION OF AIR QUALITY RISK SCREENING WORKSHEET
For Long-Term Carcinogenic and Noncarcinogenic Effects and Short-Term Effects

August 2018

Read the Instructions tab carefully before completing this spreadsheet.

Date	5/31/2019
Facility ID No.	51611
Activity ID No.	BOP180001
Facility name	Georgia-Pacific Gypsum LLC
Facility location	Camden, New Jersey
File name (.xls)	51611-BOP180001 U8 Risk2018

Emission Unit/Batch Process ID No.	U8	Stack height[1]	60.0 ft
Emission Point ID No.	PT13	Distance to property line	150 ft
Equipment ID No(s).	E8	**Annual air impact value, C'**	1.256 **(ug/m³)/(ton/yr)**
Operating Scenario(s)	OS1	**24-hour air impact value, C'_{st}**	33.54 **(ug/m³)/(lb/hr)**

KEY:

Long-Term Effects

- **Q =** Annual emission rate (in tons per year) contributed from the source
- **C =** C' x Q = Annual average ambient air concentration
- **URF =** Unit risk factor (for carcinogenic risk)
- **IR =** C x URF = Incremental risk (for carcinogen)
- **RfC =** Reference concentration (for noncarcinogenic effects)
- **HQ =** C/RfC = Hazard quotient (for noncarcinogenic risk)
- **RsIt =** The result of comparing the IR or HQ to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

Short-Term Effects

- **Q_h =** Hourly emission rate (in pounds per hour)
- **C_{st} =** C'_{st} x Q_h = Short-term average ambient air concentration
- **RfC_{st} =** Short-term reference concentration (for noncarcinogenic effects)
- **HQ_{st} =** C_{st}/RfC_{st} = Hazard quotient for short-term noncarcinogenic effects
- **RsIt =** The result of comparing the HQ_{st} to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

[1] When evaluating risk for diesel engines, use the equivalent stack height consistent with the memo dated June 10, 2009.
Click here to view the "Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines" memo.

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS									SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m³)	URF [(ug/m³)⁻¹]	IR	RsIt	RfC (ug/m³)	HQ	RsIt	Q_h (lb/hr)	C_{st} (ug/m³)	RfC_{st} (ug/m³)	HQ_{st}	RsIt
1	*	75070	Acetaldehyde			2.2E-06			9					470		
2	*	60355	Acetamide			2.0E-05										
3		67641	Acetone						31000					62000		
4		75865	Acetone cyanohydrin						2							
5	*	75058	Acetonitrile						60							
6	*	98862	Acetophenone						0.02							
7	*	53963	Acetylaminofluorene (2-)			1.3E-03										
8	*	107028	Acrolein						0.02					2.5		
9	*	79061	Acrylamide			1.0E-04			6							
10	*	79107	Acrylic acid						1					6000		
11	*	107131	Acrylonitrile			6.8E-05			2							
12		309002	Aldrin			4.9E-03										
13	*	107051	Allyl chloride			6.0E-06			1							
14		117793	Aminoanthraquinone (2-)			9.4E-06										
15	*	92671	Aminobiphenyl (4-)			6.0E-03										
16		7664417	Ammonia						100					3200		
17	*	62533	Aniline			1.6E-06			1					3000		
18	*	90040	Anisidine (o-)			4.0E-05										
19	**	1309644	Antimony trioxide						0.2							
20		140578	Aramite			7.1E-06										
21	*		Arsenic (inorganic)	9.5E-07	1.2E-06	4.3E-03	**5.1E-09**	**Negl.**	0.015	**7.9E-05**	**Negl.**	3.3E-07	2.8E-05	0.2	**1.4E-04**	**Negl.**
22	**	7784421	Arsine						0.05							
23	*	1332214	Asbestos			7.7E-03										
24		103333	Azobenzene			3.1E-05										
25			Barium	2.1E-05	2.6E-05							7.3E-06	0.00024	0.5	**4.9E-04**	**Negl.**
26	*	71432	Benzene	9.9E-06	1.2E-05	7.8E-06	**9.7E-11**	**Negl.**	3	**4.2E-06**	**Negl.**	3.5E-06	0.00029	27	**1.1E-05**	**Negl.**
27	*	92875	Benzidine			6.7E-02										
28	**	50328	Benzo(a)pyrene	3.1E-06	3.9E-06	1.1E-03	**4.3E-09**	**Negl.**				1.1E-06	9.1E-05			
29	*	98077	Benzotrichloride			3.7E-03										
30	*	100447	Benzyl chloride			4.9E-05								240		
31	*		Beryllium			2.4E-03			0.02							
32	*	92524	Biphenyl (1,1-)						0.4							
33		108601	Bis(2-chloroisopropyl)ether			1.0E-05										
34	*	117817	Bis(2-ethylhexyl)phthalate			2.4E-06										
35	*	542881	Bis(chloromethyl)ether			6.2E-02										
36		7440428	Boron (elemental)						20							
37		7637072	Boron trifluoride						0.7							
38		74975	Bromochloromethane						40							
39		75274	Bromodichloromethane			3.7E-05										
40	*	75252	Bromoform			1.1E-06										
41	*	106990	Butadiene (1,3-)			3.0E-05			2					660		
42	*		Cadmium	5.2E-06	6.5E-06	4.2E-03	**2.7E-08**	**Negl.**	0.02	**3.3E-04**	**Negl.**	1.8E-06	0.00015			
43		105602	Caprolactam						2.2					50		
44	*	133062	Captan			6.6E-07										
45	*	75150	Carbon disulfide						700					6200		
46	*	56235	Carbon tetrachloride			6.0E-06			40					1900		
47	*	57749	Chlordane			1.0E-04			0.7							
48		108171262	Chlorinated paraffins			2.0E-05										
49	*	7782505	Chlorine						0.2					210		
50		10049044	Chlorine dioxide						0.2					28		
51		75683	Chloro-1,1-difluoroethane (1-) *(HCFC-142b)*						50000							
52	*	532274	Chloroacetophenone (2-)						0.03							
53	*	108907	Chlorobenzene						1000							
54	*	510156	Chlorobenzilate			3.1E-05										
55		75456	Chlorodifluoromethane *(HCFC-22)*						50000							
56	*	67663	Chloroform			2.3E-05			300					150		
57	*	107302	Chloromethyl methyl ether			6.9E-04										
58		95830	Chloro-o-phenylenediamine (4-)			4.6E-06										
59		95692	Chloro-o-toluidine (p-)			7.7E-05										
60		76062	Chloropicrin						0.4					29		
61	*	126998	Chloroprene			5.0E-04			20							
62		75296	Chloropropane (2-)						100							
63	**		Chromic acid mists (Cr VI)						0.008							
64	**	18540299	Chromium VI (total)			1.2E-02										
65	**		Chromium VI dissolved aerosols						0.008							
66	**		Chromium VI particulates	6.6E-06	8.3E-06				0.1	**8.3E-05**	**Negl.**	2.3E-06	0.00019			
67	*		Cobalt	4.0E-07	5.0E-07	9.0E-03	**4.5E-09**	**Negl.**	0.006	**8.3E-05**	**Negl.**	1.4E-07	1.2E-05			
68	*	8007452	Coke oven emissions			6.2E-04										
69			Copper	4.0E-06	5.0E-06							1.4E-06	0.00012	100	**1.2E-06**	**Negl.**
70		120718	Cresidine (p-)			4.3E-05										
71	*		Cresol mixtures						600							
72		98828	Cumene						400							
73		135206	Cupferron			6.3E-05										
74		110827	Cyclohexane											6000		
75	*	72559	DDE			9.7E-05										
76		50293	DDT			9.7E-05										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF $[(ug/m^3)^{-1}]$	IR	RsIt	RfC (ug/m^3)	HQ	RsIt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	RsIt
77		615054	Diaminoanisole (2,4-)			6.6E-06										
78		124481	Dibromochloromethane			2.7E-05										
79	*	96128	Dibromo-3-chloropropane (1,2-)			2.0E-03			0.2							
80		764410	Dichloro-2-butene (1,4-)			4.2E-03										
81		95501	Dichlorobenzene (1,2-)	5.7E-06	7.1E-06				200	**3.6E-08**	**Negl.**	2.0E-06	0.00017			
82	*	106467	Dichlorobenzene (1,4-)	5.7E-06	7.1E-06	1.1E-05	**7.8E-11**	**Negl.**	800	**8.9E-09**	**Negl.**	2.0E-06	0.00017			
83	*	91941	Dichlorobenzidine (3,3'-)			3.4E-04										
84		75718	Dichlorodifluoromethane						100							
85	*	111444	Dichloroethyl ether			3.3E-04										
86	*	542756	Dichloropropene (1,3-)			4.0E-06			20							
87	*	62737	Dichlorvos			8.3E-05			0.5							
88		77736	Dicyclopentadiene						0.3							
89		60571	Dieldrin			4.6E-03										
90			Diesel particulate matter			3.0E-04			5							
91	*	111422	Diethanolamine						3							
92		112345	Diethylene glycol monobutyl ether						0.1							
93		75376	Difluoroethane (1,1-)						40000							
94	*	77781	Dimethyl sulfate			4.0E-03										
95	*	60117	Dimethylaminoazobenzene (4-)			1.3E-03										
96	*	79447	Dimethylcarbamyl chloride			3.7E-03										
97	*	68122	Dimethylformamide (N,N-)						30							
98	*	57147	Dimethylhydrazine (1,1-)						0.002							
99		540738	Dimethylhydrazine (1,2-)			1.6E-01										
100	*	121142	Dinitrotoluene (2,4-)			8.9E-05										
101	*	123911	Dioxane (1,4-)			5.0E-06			30					3000		
102	*		Dioxin	See footnote "a"												
103	*	122667	Diphenylhydrazine (1,2-)			2.2E-04										
104	*	106898	Epichlorohydrin			1.2E-06			1					1300		
105	*	106887	Epoxybutane (1,2-)						20							
106	*	140885	Ethyl acrylate						8							
107	*	100414	Ethylbenzene			2.5E-06								1000		
108	*	51796	Ethyl carbamate			2.9E-04										
109	*	75003	Ethyl chloride											10000		
110	*	106934	Ethylene dibromide			6.0E-04			0.8							
111	*	107062	Ethylene dichloride			2.6E-05			400							
112	*	107211	Ethylene glycol						400							
113	*	111762	Ethylene glycol monobutyl ether						1600					14000		
114	**	110805	Ethylene glycol monoethyl ether						200					370		
115	**	111159	Ethylene glycol monoethyl ether acetate						300					140		
116	**	109864	Ethylene glycol monomethyl ether						20					93		
117	**	110496	Ethylene glycol monomethyl ether acetate						90							
118	*	75218	Ethylene oxide			3.0E-03			30					42		
119	*	96457	Ethylene thiourea			1.3E-05										
120	*	151564	Ethyleneimine			1.9E-02										
121	*	75343	Ethylidene dichloride			1.6E-06			500							
122		16984488	Fluoride						13							
123	*	50000	Formaldehyde	3.5E-04	4.4E-04	1.3E-05	**5.8E-09**	**Negl.**	9	**4.9E-05**	**Negl.**	1.2E-04	0.0104	55	**1.9E-04**	**Negl.**
124		98011	Furfural						50							
125			Gasoline vapors			1.0E-06			15							
126		111308	Glutaraldehyde						0.08							
127		765344	Glycidaldehyde						1							
128	*	76448	Heptachlor			1.3E-03										
129		1024573	Heptachlor epoxide			2.6E-03										
130	*	118741	Hexachlorobenzene			4.6E-04										
131	*	87683	Hexachlorobutadiene			2.2E-05										
132	**	319846	Hexachlorocyclohexane (alpha-)			1.8E-03										
133	**	319857	Hexachlorocyclohexane (beta-)			5.3E-04										
134	*	58899	Hexachlorocyclohexane (gamma-)			3.1E-04										
135	**	608731	Hexachlorocyclohexane (technical grade)			5.1E-04										
136	*	77474	Hexachlorocyclopentadiene						0.2							
137		19408743	Hexachlorodibenzo-p-dioxin, mixture			1.3E+00										
138	*	67721	Hexachloroethane			1.1E-05			30							
139	*	822060	Hexamethylene diisocyanate						0.01							
140	*	110543	Hexane (N-)	8.3E-03	1.0E-02				700	**1.5E-05**	**Negl.**	3.0E-03	0.2482			
141	*	302012	Hydrazine			4.9E-03			0.2					10		
142		10034932	Hydrazine sulfate			4.9E-03										
143	*	7647010	Hydrogen chloride						20					2100		
144	**	74908	Hydrogen cyanide						0.8					340		
145	*	7664393	Hydrogen fluoride						14					240		
146	**	7783075	Hydrogen selenide											5		
147		7783064	Hydrogen sulfide						2					42		
148	*	78591	Isophorone						2000							
149		67630	Isopropanol											3200		
150	*		Lead	2.4E-06	3.0E-06	1.2E-05	**3.6E-11**	**Negl.**				8.2E-07	2.8E-05	0.1	**2.8E-04**	**Negl.**
151	*	108316	Maleic anhydride						0.7							
152	*		Manganese	1.8E-06	2.2E-06				0.05	**4.5E-05**	**Negl.**	6.3E-07	3.7E-05	0.17	**2.2E-04**	**Negl.**
153	*		Mercury (elemental)	1.2E-06	1.5E-06				0.3	**5.1E-06**	**Negl.**	4.3E-07	3.6E-05			
154	*	7439976	Mercury (inorganic)	1.2E-06	1.5E-06				0.03	**5.1E-05**	**Negl.**	4.3E-07	3.6E-05	0.6	**6.0E-05**	**Negl.**
155		126987	Methacrylonitrile						0.7							
156	*	67561	Methanol						4000					28000		
157	*	74839	Methyl bromide						5					3900		
158	*	74873	Methyl chloride			1.8E-06			90							
159	*	71556	Methyl chloroform						1000					9000		
160		78933	Methyl ethyl ketone						5000					13000		
161	*	108101	Methyl isobutyl ketone											3000		
162	*	624839	Methyl isocyanate						1							
163	*	80626	Methyl methacrylate						700							
164		25013154	Methyl styrene (mixed isomers)						40							
165	*	1634044	Methyl tert butyl ether			2.6E-07			3000							
166		108872	Methylcyclohexane						3000							
167	*	101144	Methylene bis(2-chloroaniline) (4,4'-)			4.3E-04										
168	*	75092	Methylene chloride			1.3E-08			600					14000		
169	*	101779	Methylenedianiline (4,4-)			4.6E-04			20							
170	*	101688	Methylenediphenyl diisocyanate (4,4'-)						0.6							
171	*	60344	Methylhydrazine			1.0E-03			0.02							
172		90948	Michler's ketone			2.5E-04										
173	*		Mineral fibers (<1% free silica)						24							
174	*	91203	Naphthalene	2.9E-06	3.6E-06	3.4E-05	**1.2E-10**	**Negl.**	3	**1.2E-06**	**Negl.**	1.0E-06	8.4E-05			
175	*		Nickel and compounds	9.9E-06	1.2E-05	2.4E-04	**3.0E-09**	**Negl.**	0.014	**8.9E-04**	**Negl.**	3.5E-06	0.00029	0.2	**1.5E-03**	**Negl.**
176	**	1313991	Nickel oxide						0.02							
177	**		Nickel, soluble salts						0.2							
178		7697372	Nitric acid											86		
179		88744	Nitroaniline (o-)						0.05							
180	*	98953	Nitrobenzene			4.0E-05			9							
181	*	79469	Nitropropane (2-)			2.7E-03			20							
182		55185	Nitrosodiethylamine (N-)			4.3E-02										
183	*	62759	Nitrosodimethylamine (N-)			1.4E-02										
184		924163	Nitrosodi-n-butylamine (N-)			1.6E-03										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF [$(ug/m^3)^{-1}$]	IR	Rslt	RfC (ug/m^3)	HQ	Rslt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	Rslt
185		621647	Nitrosodi-n-propylamine (N-)			2.0E-03										
186		86306	Nitrosodiphenylamine (N-)			2.6E-06										
187		156105	Nitrosodiphenylamine (p-)			6.3E-06										
188		10595956	Nitrosomethylethylamine (N-)			6.3E-03										
189	*	59892	Nitrosomorpholine (N-)			1.9E-03										
190		759739	Nitroso-n-ethylurea (N-)			7.7E-03										
191	*	684935	Nitroso-n-methylurea (N-)			3.4E-02										
192		100754	Nitrosopiperidine (N-)			2.7E-03										
193		930552	Nitrosopyrrolidine (N-)			6.1E-04										
194	*	87865	Pentachlorophenol			5.1E-06										
195	*	108952	Phenol						200					5800		
196	*	75445	Phosgene						0.3					4		
197	*	7803512	Phosphine						0.3							
198	*	7664382	Phosphoric acid						10							
199	*		Phosphorus (white)						0.07							
200	*	85449	Phthalic anhydride						20							
201	*	1336363	Polychlorinated biphenyls (PCBs)			1.0E-04										
202	*		Polycylic aromatic hydrocarbons (PAHs)	See footnote "b"												
203	*		Polycylic organic matter (POM)													
204		7758012	Potassium bromate			1.4E-04										
205	*	1120714	Propane sultone (1,3-)			6.9E-04										
206	*	57578	Propiolactone (beta-)			4.0E-03										
207	*	123386	Propionaldehyde						8							
208		115071	Propylene						3000							
209	*	78875	Propylene dichloride			1.0E-05			4							
210		107982	Propylene glycol monomethyl ether						2000							
211	*	75569	Propylene oxide			3.7E-06			30					3100		
212	**		Selenium and compounds						20							
213		7631869	Silica (crystalline, respirable)						3							
214		1310732	Sodium hydroxide											8		
215	*	100425	Styrene			5.7E-07			1000					21000		
216	*	96093	Styrene oxide			4.6E-05										
217			Sulfates											120		
218		7664939	Sulfuric acid						1					120		
220	*	1746016	Tetrachlorodibenzo(p)dioxin (2,3,7,8-)			3.8E+01			0.00004							
221		630206	Tetrachloroethane (1,1,1,2-)			7.4E-06										
222	*	79345	Tetrachloroethane (1,1,2,2-)			5.8E-05										
223	*	127184	Tetrachloroethylene			5.9E-06			40					20000		
224		811972	Tetrafluoroethane (1,1,1,2-)						80000							
225		109999	Tetrahydrofuran						2000							
226		62555	Thioacetamide			1.7E-03										
227	*	7550450	Titanium tetrachloride						0.1							
228	*	108883	Toluene	1.6E-05	2.0E-05				5000	**4.0E-09**	**Negl.**	5.6E-06	0.00047	37000	**1.3E-08**	**Negl.**
229	*	584849	Toluene diisocyanate (2,4-)			1.1E-05			0.07					14		
230	*	26471625	Toluene diisocyanate (2,4-/2,6-)			1.1E-05			0.07							
231	*	91087	Toluene diisocyanate (2,6-)			1.1E-05			0.07							
232	*	95807	Toluene-2,4-diamine			1.1E-03										
233	*	95534	Toluidine (o-)			5.1E-05										
234	*	8001352	Toxaphene			3.2E-04										
235		76131	Trichloro-1,2,2-trifluoroethane (1,1,2-)						30000							
236	*	120821	Trichlorobenzene (1,2,4-)						2							
237	*	79005	Trichloroethane (1,1,2-)			1.6E-05										
238	*	79016	Trichloroethylene			4.8E-06			2					2		
239		75694	Trichlorofluoromethane						700							
240	*	88062	Trichlorophenol (2,4,6-)			3.1E-06										
241	*	121448	Triethylamine						7					2800		
242	*	1582098	Trifluralin			2.2E-06										
243		95636	Trimethylbenzene (1,2,4-)						7							
244		7440622	Vanadium	1.1E-05	1.4E-05				0.1	**1.4E-04**	**Negl.**	3.8E-06	0.00013	0.8	**1.6E-04**	**Negl.**
245		1314621	Vanadium pentoxide											30		
246	*	108054	Vinyl acetate						200							
247	*	593602	Vinyl bromide			3.2E-05			3							
248	*	75014	Vinyl chloride			8.8E-06			100					180000		
249	*	75354	Vinylidene chloride						200							
250	*		Xylene (m-,o-,p-, or mixed isomers)						100					22000		

If any calculated long-term or short-term effects for an air toxic result in "Further Evaluation Required" (FER) on this Risk Screening Worksheet, a Refined Risk Assessment is required for that air toxic.

NOTE:

* **Clean Air Act hazardous air pollutant**

** **Clean Air Act hazardous air pollutant, but not listed individually (part of a group)**

a Dioxins may be considered to be all 2,3,7,8-tetrachlorodibenzo(p)dioxin), or separated into congeners (contact AQEv).

b PAH or POM may be considered to be all benzo(a)pyrene, or separated into individual PAHs (contact AQEv).

The results are determined by comparing the long-term and short-term effects to the single-source thresholds, listed below.
The threshold value of negligible risk for incremental risk (IR) is 1 in a million (1.0E-06). An IR value less than or equal to 1 in million is considered negligible.
The threshold value of negligible risk for long-term hazard quotient (HQ) for non-carcinogenic risk is 1.0. An HQ less than or equal to 1.0 is considered negligible.
The threshold value of negligible risk for short-term hazard quotient (HQ_{st}) for non-carcinogenic risk is 1.0. An HQ_{st} less than or equal to 1.0 is considered negligible.

NJDEP DIVISION OF AIR QUALITY RISK SCREENING WORKSHEET
For Long-Term Carcinogenic and Noncarcinogenic Effects and Short-Term Effects

August 2018

Read the Instructions tab carefully before completing this spreadsheet.

Date	5/31/2019
Facility ID No.	51611
Activity ID No.	BOP180001
Facility name	Georgia-Pacific Gypsum LLC
Facility location	Camden, New Jersey
File name (.xls)	51611-BOP180001 U11 Risk2018

Emission Unit/Batch Process ID No.	U11	Stack height[1]	32.0 ft
Emission Point ID No.	PT16	Distance to property line	450 ft
Equipment ID No(s).	E11	**Annual air impact value, C'**	0.793 **(ug/m³)/(ton/yr)**
Operating Scenario(s)	OS1	**24-hour air impact value, C'_{st}**	35.34 **(ug/m³)/(lb/hr)**

KEY:

Long-Term Effects

- **Q =** Annual emission rate (in tons per year) contributed from the source
- **C =** C' x Q = Annual average ambient air concentration
- **URF =** Unit risk factor (for carcinogenic risk)
- **IR =** C x URF = Incremental risk (for carcinogen)
- **RfC =** Reference concentration (for noncarcinogenic effects)
- **HQ =** C/RfC = Hazard quotient (for noncarcinogenic risk)
- **RsIt =** The result of comparing the IR or HQ to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

Short-Term Effects

- **Q_h =** Hourly emission rate (in pounds per hour)
- **C_{st} =** C'_{st} x Q_h = Short-term average ambient air concentration
- **RfC_{st} =** Short-term reference concentration (for noncarcinogenic effects)
- **HQ_{st} =** C_{st}/RfC_{st} = Hazard quotient for short-term noncarcinogenic effects
- **RsIt =** The result of comparing the HQ_{st} to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

[1] When evaluating risk for diesel engines, use the equivalent stack height consistent with the memo dated June 10, 2009.
Click here to view the "Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines" memo.

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS									SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m³)	URF [(ug/m³)⁻¹]	IR	RsIt	RfC (ug/m³)	HQ	RsIt	Q_h (lb/hr)	C_{st} (ug/m³)	RfC_{st} (ug/m³)	HQ_{st}	RsIt
1	*	75070	Acetaldehyde			2.2E-06			9					470		
2	*	60355	Acetamide			2.0E-05										
3		67641	Acetone						31000					62000		
4		75865	Acetone cyanohydrin						2							
5	*	75058	Acetonitrile						60							
6	*	98862	Acetophenone						0.02							
7	*	53963	Acetylaminofluorene (2-)			1.3E-03										
8	*	107028	Acrolein						0.02					2.5		
9	*	79061	Acrylamide			1.0E-04			6							
10	*	79107	Acrylic acid						1					6000		
11	*	107131	Acrylonitrile			6.8E-05			2							
12		309002	Aldrin			4.9E-03										
13	*	107051	Allyl chloride			6.0E-06			1							
14		117793	Aminoanthraquinone (2-)			9.4E-06										
15	*	92671	Aminobiphenyl (4-)			6.0E-03										
16		7664417	Ammonia						100					3200		
17	*	62533	Aniline			1.6E-06			1					3000		
18	*	90040	Anisidine (o-)			4.0E-05										
19	**	1309644	Antimony trioxide						0.2							
20		140578	Aramite			7.1E-06										
21	*		Arsenic (inorganic)	1.3E-05	1.1E-05	4.3E-03	**4.5E-08**	**Negl.**	0.015	**7.0E-04**	**Negl.**	5.0E-06	0.00044	0.2	**2.2E-03**	**Negl.**
22	**	7784421	Arsine						0.05							
23	*	1332214	Asbestos			7.7E-03										
24		103333	Azobenzene			3.1E-05										
25			Barium	2.9E-04	2.3E-04							1.1E-04	0.00389	0.5	**7.8E-03**	**Negl.**
26	*	71432	Benzene	1.4E-04	1.1E-04	7.8E-06	**8.7E-10**	**Negl.**	3	**3.7E-05**	**Negl.**	5.3E-05	0.00464	27	**1.7E-04**	**Negl.**
27	*	92875	Benzidine			6.7E-02										
28	**	50328	Benzo(a)pyrene	4.4E-05	3.5E-05	1.1E-03	**3.8E-08**	**Negl.**				1.7E-05	0.00146			
29	*	98077	Benzotrichloride			3.7E-03										
30	*	100447	Benzyl chloride			4.9E-05								240		
31	*		Beryllium			2.4E-03			0.02							
32	*	92524	Biphenyl (1,1-)						0.4							
33		108601	Bis(2-chloroisopropyl)ether			1.0E-05										
34	*	117817	Bis(2-ethylhexyl)phthalate			2.4E-06										
35	*	542881	Bis(chloromethyl)ether			6.2E-02										
36		7440428	Boron (elemental)						20							
37		7637072	Boron trifluoride						0.7							
38		74975	Bromochloromethane						40							
39		75274	Bromodichloromethane			3.7E-05										
40	*	75252	Bromoform			1.1E-06										
41	*	106990	Butadiene (1,3-)			3.0E-05			2					660		
42	*		Cadmium	7.3E-05	5.8E-05	4.2E-03	**2.4E-07**	**Negl.**	0.02	**2.9E-03**	**Negl.**	2.8E-05	0.00243			
43		105602	Caprolactam						2.2					50		
44	*	133062	Captan			6.6E-07										
45	*	75150	Carbon disulfide						700					6200		
46	*	56235	Carbon tetrachloride			6.0E-06			40					1900		
47	*	57749	Chlordane			1.0E-04			0.7							
48		108171262	Chlorinated paraffins			2.0E-05										
49	*	7782505	Chlorine						0.2					210		
50		10049044	Chlorine dioxide						0.2					28		
51		75683	Chloro-1,1-difluoroethane (1-) *(HCFC-142b)*						50000							
52	*	532274	Chloroacetophenone (2-)						0.03							
53	*	108907	Chlorobenzene						1000							
54	*	510156	Chlorobenzilate			3.1E-05										
55		75456	Chlorodifluoromethane *(HCFC-22)*						50000							
56	*	67663	Chloroform			2.3E-05			300					150		
57	*	107302	Chloromethyl methyl ether			6.9E-04										
58		95830	Chloro-o-phenylenediamine (4-)			4.6E-06										
59		95692	Chloro-o-toluidine (p-)			7.7E-05										
60		76062	Chloropicrin						0.4					29		
61	*	126998	Chloroprene			5.0E-04			20							
62		75296	Chloropropane (2-)						100							
63	**		Chromic acid mists (Cr VI)						0.008							
64	**	18540299	Chromium VI (total)			1.2E-02										
65	**		Chromium VI dissolved aerosols						0.008							
66	**		Chromium VI particulates	9.3E-05	7.4E-05				0.1	**7.4E-04**	**Negl.**	3.5E-05	0.00309			
67	*		Cobalt	5.6E-06	4.4E-06	9.0E-03	**4.0E-08**	**Negl.**	0.006	**7.4E-04**	**Negl.**	2.1E-06	0.00019			
68	*	8007452	Coke oven emissions			6.2E-04										
69			Copper	5.7E-05	4.5E-05							2.1E-05	0.00188	100	**1.9E-05**	**Negl.**
70		120718	Cresidine (p-)			4.3E-05										
71	*		Cresol mixtures						600							
72		98828	Cumene						400							
73		135206	Cupferron			6.3E-05										
74		110827	Cyclohexane											6000		
75	*	72559	DDE			9.7E-05										
76		50293	DDT			9.7E-05										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF $[(ug/m^3)^{-1}]$	IR	RsIt	RfC (ug/m^3)	HQ	RsIt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	RsIt
77		615054	Diaminoanisole (2,4-)			6.6E-06										
78		124481	Dibromochloromethane			2.7E-05										
79	*	96128	Dibromo-3-chloropropane (1,2-)			2.0E-03			0.2							
80		764410	Dichloro-2-butene (1,4-)			4.2E-03										
81		95501	Dichlorobenzene (1,2-)	8.0E-05	6.3E-05				200	**3.2E-07**	**Negl.**	3.0E-05	0.00265			
82	*	106467	Dichlorobenzene (1,4-)	8.0E-05	6.3E-05	1.1E-05	**7.0E-10**	**Negl.**	800	**7.9E-08**	**Negl.**	3.0E-05	0.00265			
83	*	91941	Dichlorobenzidine (3,3'-)			3.4E-04										
84		75718	Dichlorodifluoromethane						100							
85	*	111444	Dichloroethyl ether			3.3E-04										
86	*	542756	Dichloropropene (1,3-)			4.0E-06			20							
87	*	62737	Dichlorvos			8.3E-05			0.5							
88		77736	Dicyclopentadiene						0.3							
89		60571	Dieldrin			4.6E-03										
90			Diesel particulate matter			3.0E-04			5							
91	*	111422	Diethanolamine						3							
92		112345	Diethylene glycol monobutyl ether						0.1							
93		75376	Difluoroethane (1,1-)						40000							
94	*	77781	Dimethyl sulfate			4.0E-03										
95	*	60117	Dimethylaminoazobenzene (4-)			1.3E-03										
96	*	79447	Dimethylcarbamyl chloride			3.7E-03										
97	*	68122	Dimethylformamide (N,N-)						30							
98	*	57147	Dimethylhydrazine (1,1-)						0.002							
99		540738	Dimethylhydrazine (1,2-)			1.6E-01										
100	*	121142	Dinitrotoluene (2,4-)			8.9E-05										
101	*	123911	Dioxane (1,4-)			5.0E-06			30					3000		
102	*		Dioxin	See footnote "a"												
103	*	122667	Diphenylhydrazine (1,2-)			2.2E-04										
104	*	106898	Epichlorohydrin			1.2E-06			1					1300		
105	*	106887	Epoxybutane (1,2-)						20							
106	*	140885	Ethyl acrylate						8							
107	*	100414	Ethylbenzene			2.5E-06								1000		
108	*	51796	Ethyl carbamate			2.9E-04										
109	*	75003	Ethyl chloride											10000		
110	*	106934	Ethylene dibromide			6.0E-04			0.8							
111	*	107062	Ethylene dichloride			2.6E-05			400							
112	*	107211	Ethylene glycol						400							
113	*	111762	Ethylene glycol monobutyl ether						1600					14000		
114	**	110805	Ethylene glycol monoethyl ether						200					370		
115	**	111159	Ethylene glycol monoethyl ether acetate						300					140		
116	**	109864	Ethylene glycol monomethyl ether						20					93		
117	**	110496	Ethylene glycol monomethyl ether acetate						90							
118	*	75218	Ethylene oxide			3.0E-03			30					42		
119	*	96457	Ethylene thiourea			1.3E-05										
120	*	151564	Ethyleneimine			1.9E-02										
121	*	75343	Ethylidene dichloride			1.6E-06			500							
122		16984488	Fluoride						13							
123	*	50000	Formaldehyde	5.0E-03	4.0E-03	1.3E-05	**5.1E-08**	**Negl.**	9	**4.4E-04**	**Negl.**	1.9E-03	0.16566	55	**3.0E-03**	**Negl.**
124		98011	Furfural						50							
125			Gasoline vapors			1.0E-06			15							
126		111308	Glutaraldehyde						0.08							
127		765344	Glycidaldehyde						1							
128	*	76448	Heptachlor			1.3E-03										
129		1024573	Heptachlor epoxide			2.6E-03										
130	*	118741	Hexachlorobenzene			4.6E-04										
131	*	87683	Hexachlorobutadiene			2.2E-05										
132	**	319846	Hexachlorocyclohexane (alpha-)			1.8E-03										
133	**	319857	Hexachlorocyclohexane (beta-)			5.3E-04										
134	*	58899	Hexachlorocyclohexane (gamma-)			3.1E-04										
135	**	608731	Hexachlorocyclohexane (technical grade)			5.1E-04										
136	*	77474	Hexachlorocyclopentadiene						0.2							
137		19408743	Hexachlorodibenzo-p-dioxin, mixture			1.3E+00										
138	*	67721	Hexachloroethane			1.1E-05			30							
139	*	822060	Hexamethylene diisocyanate						0.01							
140	*	110543	Hexane (N-)	1.2E-01	9.5E-02				700	**1.4E-04**	**Negl.**	4.5E-02	3.97575			
141	*	302012	Hydrazine			4.9E-03			0.2					10		
142		10034932	Hydrazine sulfate			4.9E-03										
143	*	7647010	Hydrogen chloride						20					2100		
144	**	74908	Hydrogen cyanide						0.8					340		
145	*	7664393	Hydrogen fluoride						14					240		
146	**	7783075	Hydrogen selenide											5		
147		7783064	Hydrogen sulfide						2					42		
148	*	78591	Isophorone						2000							
149		67630	Isopropanol											3200		
150	*		Lead	3.3E-05	2.6E-05	1.2E-05	**3.2E-10**	**Negl.**				1.3E-05	0.00044	0.1	**4.4E-03**	**Negl.**
151	*	108316	Maleic anhydride						0.7							
152	*		Manganese	2.5E-05	2.0E-05				0.05	**4.0E-04**	**Negl.**	9.5E-06	0.00059	0.17	**3.5E-03**	**Negl.**
153	*		Mercury (elemental)	1.7E-05	1.4E-05				0.3	**4.6E-05**	**Negl.**	6.5E-06	0.00057			
154	*	7439976	Mercury (inorganic)	1.7E-05	1.4E-05				0.03	**4.6E-04**	**Negl.**	6.5E-06	0.00057	0.6	**9.6E-04**	**Negl.**
155		126987	Methacrylonitrile						0.7							
156	*	67561	Methanol						4000					28000		
157	*	74839	Methyl bromide						5					3900		
158	*	74873	Methyl chloride			1.8E-06			90							
159	*	71556	Methyl chloroform						1000					9000		
160		78933	Methyl ethyl ketone						5000					13000		
161	*	108101	Methyl isobutyl ketone											3000		
162	*	624839	Methyl isocyanate						1							
163	*	80626	Methyl methacrylate						700							
164		25013154	Methyl styrene (mixed isomers)						40							
165	*	1634044	Methyl tert butyl ether			2.6E-07			3000							
166		108872	Methylcyclohexane						3000							
167	*	101144	Methylene bis(2-chloroaniline) (4,4'-)			4.3E-04										
168	*	75092	Methylene chloride			1.3E-08			600					14000		
169	*	101779	Methylenedianiline (4,4-)			4.6E-04			20							
170	*	101688	Methylenediphenyl diisocyanate (4,4'-)						0.6							
171	*	60344	Methylhydrazine			1.0E-03			0.02							
172		90948	Michler's ketone			2.5E-04										
173	*		Mineral fibers (<1% free silica)						24							
174	*	91203	Naphthalene	4.1E-05	3.2E-05	3.4E-05	**1.1E-09**	**Negl.**	3	**1.1E-05**	**Negl.**	1.5E-05	0.00135			
175	*		Nickel and compounds	1.4E-04	1.1E-04	2.4E-04	**2.7E-08**	**Negl.**	0.014	**7.9E-03**	**Negl.**	5.3E-05	0.00464	0.2	**2.3E-02**	**Negl.**
176	**	1313991	Nickel oxide						0.02							
177	**		Nickel, soluble salts						0.2							
178		7697372	Nitric acid											86		
179		88744	Nitroaniline (o-)						0.05							
180	*	98953	Nitrobenzene			4.0E-05			9							
181	*	79469	Nitropropane (2-)			2.7E-03			20							
182		55185	Nitrosodiethylamine (N-)			4.3E-02										
183	*	62759	Nitrosodimethylamine (N-)			1.4E-02										
184		924163	Nitrosodi-n-butylamine (N-)			1.6E-03										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF $[(ug/m^3)^{-1}]$	IR	Rslt	RfC (ug/m^3)	HQ	Rslt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	Rslt
185		621647	Nitrosodi-n-propylamine (N-)			2.0E-03										
186		86306	Nitrosodiphenylamine (N-)			2.6E-06										
187		156105	Nitrosodiphenylamine (p-)			6.3E-06										
188		10595956	Nitrosomethylethylamine (N-)			6.3E-03										
189	*	59892	Nitrosomorpholine (N-)			1.9E-03										
190		759739	Nitroso-n-ethylurea (N-)			7.7E-03										
191	*	684935	Nitroso-n-methylurea (N-)			3.4E-02										
192		100754	Nitrosopiperidine (N-)			2.7E-03										
193		930552	Nitrosopyrrolidine (N-)			6.1E-04										
194	*	87865	Pentachlorophenol			5.1E-06										
195	*	108952	Phenol						200					5800		
196	*	75445	Phosgene						0.3					4		
197	*	7803512	Phosphine						0.3							
198	*	7664382	Phosphoric acid						10							
199	*		Phosphorus (white)						0.07							
200	*	85449	Phthalic anhydride						20							
201	*	1336363	Polychlorinated biphenyls (PCBs)			1.0E-04										
202	*		Polycylic aromatic hydrocarbons (PAHs)	See footnote "b"												
203	*		Polycylic organic matter (POM)													
204		7758012	Potassium bromate			1.4E-04										
205	*	1120714	Propane sultone (1,3-)			6.9E-04										
206	*	57578	Propiolactone (beta-)			4.0E-03										
207	*	123386	Propionaldehyde						8							
208		115071	Propylene						3000							
209	*	78875	Propylene dichloride			1.0E-05			4							
210		107982	Propylene glycol monomethyl ether						2000							
211	*	75569	Propylene oxide			3.7E-06			30					3100		
212	**		Selenium and compounds						20							
213		7631869	Silica (crystalline, respirable)						3							
214		1310732	Sodium hydroxide											8		
215	*	100425	Styrene			5.7E-07			1000					21000		
216	*	96093	Styrene oxide			4.6E-05										
217			Sulfates											120		
218		7664939	Sulfuric acid						1					120		
220	*	1746016	Tetrachlorodibenzo(p)dioxin (2,3,7,8-)			3.8E+01			0.00004							
221		630206	Tetrachloroethane (1,1,1,2-)			7.4E-06										
222	*	79345	Tetrachloroethane (1,1,2,2-)			5.8E-05										
223	*	127184	Tetrachloroethylene			5.9E-06			40					20000		
224		811972	Tetrafluoroethane (1,1,1,2-)						80000							
225		109999	Tetrahydrofuran						2000							
226		62555	Thioacetamide			1.7E-03										
227	*	7550450	Titanium tetrachloride						0.1							
228	*	108883	Toluene	2.3E-04	1.8E-04				5000	**3.6E-08**	**Negl.**	8.5E-05	0.00751	37000	**2.0E-07**	**Negl.**
229	*	584849	Toluene diisocyanate (2,4-)			1.1E-05			0.07					14		
230	*	26471625	Toluene diisocyanate (2,4-/2,6-)			1.1E-05			0.07							
231	*	91087	Toluene diisocyanate (2,6-)			1.1E-05			0.07							
232	*	95807	Toluene-2,4-diamine			1.1E-03										
233	*	95534	Toluidine (o-)			5.1E-05										
234	*	8001352	Toxaphene			3.2E-04										
235		76131	Trichloro-1,2,2-trifluoroethane (1,1,2-)						30000							
236	*	120821	Trichlorobenzene (1,2,4-)						2							
237	*	79005	Trichloroethane (1,1,2-)			1.6E-05										
238	*	79016	Trichloroethylene			4.8E-06			2					2		
239		75694	Trichlorofluoromethane						700							
240	*	88062	Trichlorophenol (2,4,6-)			3.1E-06										
241	*	121448	Triethylamine						7					2800		
242	*	1582098	Trifluralin			2.2E-06										
243		95636	Trimethylbenzene (1,2,4-)						7							
244		7440622	Vanadium	1.5E-04	1.2E-04				0.1	**1.2E-03**	**Negl.**	5.8E-05	0.00203	0.8	**2.5E-03**	**Negl.**
245		1314621	Vanadium pentoxide											30		
246	*	108054	Vinyl acetate						200							
247	*	593602	Vinyl bromide			3.2E-05			3							
248	*	75014	Vinyl chloride			8.8E-06			100					180000		
249	*	75354	Vinylidene chloride						200							
250	*		Xylene (m-,o-,p-, or mixed isomers)						100					22000		

If any calculated long-term or short-term effects for an air toxic result in "Further Evaluation Required" (FER) on this Risk Screening Worksheet, a Refined Risk Assessment is required for that air toxic.

NOTE:

* **Clean Air Act hazardous air pollutant**

** **Clean Air Act hazardous air pollutant, but not listed individually (part of a group)**

a Dioxins may be considered to be all 2,3,7,8-tetrachlorodibenzo(p)dioxin), or separated into congeners (contact AQEv).

b PAH or POM may be considered to be all benzo(a)pyrene, or separated into individual PAHs (contact AQEv).

The results are determined by comparing the long-term and short-term effects to the single-source thresholds, listed below.
The threshold value of negligible risk for incremental risk (IR) is 1 in a million (1.0E-06). An IR value less than or equal to 1 in million is considered negligible.
The threshold value of negligible risk for long-term hazard quotient (HQ) for non-carcinogenic risk is 1.0. An HQ less than or equal to 1.0 is considered negligible.
The threshold value of negligible risk for short-term hazard quotient (HQ_{st}) for non-carcinogenic risk is 1.0. An HQ_{st} less than or equal to 1.0 is considered negligible.

NJDEP DIVISION OF AIR QUALITY RISK SCREENING WORKSHEET
For Long-Term Carcinogenic and Noncarcinogenic Effects and Short-Term Effects

August 2018

Read the Instructions tab carefully before completing this spreadsheet.

Date	5/31/2019
Facility ID No.	51611
Activity ID No.	BOP180001
Facility name	Georgia-Pacific Gypsum LLC
Facility location	Camden, New Jersey
File name (.xls)	51611-BOP180001 U24 Risk2018

Emission Unit/Batch Process ID No.	U24	Stack height[1]	90.0 ft
Emission Point ID No.	PT26/27	Distance to property line	150 ft
Equipment ID No(s).	E24/25	**Annual air impact value, C'**	0.7868 **(ug/m³)/(ton/yr)**
Operating Scenario(s)	OS1	**24-hour air impact value, C'st**	18.24 **(ug/m³)/(lb/hr)**

KEY:

Long-Term Effects

- **Q =** Annual emission rate (in tons per year) contributed from the source
- **C =** C' x Q = Annual average ambient air concentration
- **URF =** Unit risk factor (for carcinogenic risk)
- **IR =** C x URF = Incremental risk (for carcinogen)
- **RfC =** Reference concentration (for noncarcinogenic effects)
- **HQ =** C/RfC = Hazard quotient (for noncarcinogenic risk)
- **Rslt =** The result of comparing the IR or HQ to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

Short-Term Effects

- **Q_h =** Hourly emission rate (in pounds per hour)
- **C_{st} =** C'_{st} x Q_h = Short-term average ambient air concentration
- **RfC_{st} =** Short-term reference concentration (for noncarcinogenic effects)
- **HQ_{st} =** C_{st}/RfC_{st} = Hazard quotient for short-term noncarcinogenic effects
- **Rslt =** The result of comparing the HQ_{st} to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

[1] When evaluating risk for diesel engines, use the equivalent stack height consistent with the memo dated June 10, 2009.
Click here to view the "Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines" memo.

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS									SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m³)	URF [(ug/m³)⁻¹]	IR	Rslt	RfC (ug/m³)	HQ	Rslt	Q_h (lb/hr)	C_{st} (ug/m³)	RfC_{st} (ug/m³)	HQ_{st}	Rslt
1	*	75070	Acetaldehyde			2.2E-06			9					470		
2	*	60355	Acetamide			2.0E-05										
3		67641	Acetone						31000					62000		
4		75865	Acetone cyanohydrin						2							
5	*	75058	Acetonitrile						60							
6	*	98862	Acetophenone						0.02							
7	*	53963	Acetylaminofluorene (2-)			1.3E-03										
8	*	107028	Acrolein						0.02					2.5		
9	*	79061	Acrylamide			1.0E-04			6							
10	*	79107	Acrylic acid						1					6000		
11	*	107131	Acrylonitrile			6.8E-05			2							
12		309002	Aldrin			4.9E-03										
13	*	107051	Allyl chloride			6.0E-06			1							
14		117793	Aminoanthraquinone (2-)			9.4E-06										
15	*	92671	Aminobiphenyl (4-)			6.0E-03										
16		7664417	Ammonia						100					3200		
17	*	62533	Aniline			1.6E-06			1					3000		
18	*	90040	Anisidine (o-)			4.0E-05										
19	**	1309644	Antimony trioxide						0.2							
20		140578	Aramite			7.1E-06										
21	*		Arsenic (inorganic)	6.4E-06	5.1E-06	4.3E-03	**2.2E-08**	**Negl.**	0.015	**3.4E-04**	**Negl.**	2.0E-06	8.9E-05	0.2	**4.5E-04**	**Negl.**
22	**	7784421	Arsine						0.05							
23	*	1332214	Asbestos			7.7E-03										
24		103333	Azobenzene			3.1E-05										
25			Barium	1.4E-04	1.1E-04							4.3E-05	0.00079	0.5	**1.6E-03**	**Negl.**
26	*	71432	Benzene	6.8E-05	5.3E-05	7.8E-06	**4.1E-10**	**Negl.**	3	**1.8E-05**	**Negl.**	2.1E-05	0.00094	27	**3.5E-05**	**Negl.**
27	*	92875	Benzidine			6.7E-02										
28	**	50328	Benzo(a)pyrene	4.1E-03	3.3E-03	1.1E-03	**3.6E-06**	**FER**				1.3E-03	0.05767			
29	*	98077	Benzotrichloride			3.7E-03										
30	*	100447	Benzyl chloride			4.9E-05								240		
31	*		Beryllium			2.4E-03			0.02							
32	*	92524	Biphenyl (1,1-)						0.4							
33		108601	Bis(2-chloroisopropyl)ether			1.0E-05										
34	*	117817	Bis(2-ethylhexyl)phthalate			2.4E-06										
35	*	542881	Bis(chloromethyl)ether			6.2E-02										
36		7440428	Boron (elemental)						20							
37		7637072	Boron trifluoride						0.7							
38		74975	Bromochloromethane						40							
39		75274	Bromodichloromethane			3.7E-05										
40	*	75252	Bromoform			1.1E-06										
41	*	106990	Butadiene (1,3-)			3.0E-05			2					660		
42	*		Cadmium	3.5E-05	2.8E-05	4.2E-03	**1.2E-07**	**Negl.**	0.02	**1.4E-03**	**Negl.**	1.1E-05	0.00049			
43		105602	Caprolactam						2.2					50		
44	*	133062	Captan			6.6E-07										
45	*	75150	Carbon disulfide						700					6200		
46	*	56235	Carbon tetrachloride			6.0E-06			40					1900		
47	*	57749	Chlordane			1.0E-04			0.7							
48		108171262	Chlorinated paraffins			2.0E-05										
49	*	7782505	Chlorine						0.2					210		
50		10049044	Chlorine dioxide						0.2					28		
51		75683	Chloro-1,1-difluoroethane (1-) *(HCFC-142b)*						50000							
52	*	532274	Chloroacetophenone (2-)						0.03							
53	*	108907	Chlorobenzene						1000							
54	*	510156	Chlorobenzilate			3.1E-05										
55		75456	Chlorodifluoromethane *(HCFC-22)*						50000							
56	*	67663	Chloroform			2.3E-05			300					150		
57	*	107302	Chloromethyl methyl ether			6.9E-04										
58		95830	Chloro-o-phenylenediamine (4-)			4.6E-06										
59		95692	Chloro-o-toluidine (p-)			7.7E-05										
60		76062	Chloropicrin						0.4					29		
61	*	126998	Chloroprene			5.0E-04			20							
62		75296	Chloropropane (2-)						100							
63	**		Chromic acid mists (Cr VI)						0.008							
64	**	18540299	Chromium VI (total)			1.2E-02										
65	**		Chromium VI dissolved aerosols						0.008							
66	**		Chromium VI particulates	4.5E-05	3.5E-05				0.1	**3.5E-04**	**Negl.**	1.4E-05	0.00063			
67	*		Cobalt	2.7E-06	2.1E-06	9.0E-03	**1.9E-08**	**Negl.**	0.006	**3.5E-04**	**Negl.**	8.2E-07	3.8E-05			
68	*	8007452	Coke oven emissions			6.2E-04										
69			Copper	2.7E-05	2.2E-05							8.3E-06	0.00038	100	**3.8E-06**	**Negl.**
70		120718	Cresidine (p-)			4.3E-05										
71	*		Cresol mixtures						600							
72		98828	Cumene						400							
73		135206	Cupferron			6.3E-05										
74		110827	Cyclohexane											6000		
75	*	72559	DDE			9.7E-05										
76		50293	DDT			9.7E-05										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF $[(ug/m^3)^{-1}]$	IR	RsIt	RfC (ug/m^3)	HQ	RsIt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	RsIt
77		615054	Diaminoanisole (2,4-)			6.6E-06										
78		124481	Dibromochloromethane			2.7E-05										
79	*	96128	Dibromo-3-chloropropane (1,2-)			2.0E-03			0.2							
80		764410	Dichloro-2-butene (1,4-)			4.2E-03										
81		95501	Dichlorobenzene (1,2-)						200							
82	*	106467	Dichlorobenzene (1,4-)			1.1E-05			800							
83	*	91941	Dichlorobenzidine (3,3'-)			3.4E-04										
84		75718	Dichlorodifluoromethane						100							
85	*	111444	Dichloroethyl ether			3.3E-04										
86	*	542756	Dichloropropene (1,3-)			4.0E-06			20							
87	*	62737	Dichlorvos			8.3E-05			0.5							
88		77736	Dicyclopentadiene						0.3							
89		60571	Dieldrin			4.6E-03										
90			Diesel particulate matter			3.0E-04			5							
91	*	111422	Diethanolamine						3							
92		112345	Diethylene glycol monobutyl ether						0.1							
93		75376	Difluoroethane (1,1-)						40000							
94	*	77781	Dimethyl sulfate			4.0E-03										
95	*	60117	Dimethylaminoazobenzene (4-)			1.3E-03										
96	*	79447	Dimethylcarbamyl chloride			3.7E-03										
97	*	68122	Dimethylformamide (N,N-)						30							
98	*	57147	Dimethylhydrazine (1,1-)						0.002							
99		540738	Dimethylhydrazine (1,2-)			1.6E-01										
100	*	121142	Dinitrotoluene (2,4-)			8.9E-05										
101	*	123911	Dioxane (1,4-)			5.0E-06			30					3000		
102	*		Dioxin	See footnote "a"												
103	*	122667	Diphenylhydrazine (1,2-)			2.2E-04										
104	*	106898	Epichlorohydrin			1.2E-06			1					1300		
105	*	106887	Epoxybutane (1,2-)						20							
106	*	140885	Ethyl acrylate						8							
107	*	100414	Ethylbenzene			2.5E-06								1000		
108	*	51796	Ethyl carbamate			2.9E-04										
109	*	75003	Ethyl chloride											10000		
110	*	106934	Ethylene dibromide			6.0E-04			0.8							
111	*	107062	Ethylene dichloride			2.6E-05			400							
112	*	107211	Ethylene glycol						400							
113	*	111762	Ethylene glycol monobutyl ether						1600					14000		
114	**	110805	Ethylene glycol monoethyl ether						200					370		
115	**	111159	Ethylene glycol monoethyl ether acetate						300					140		
116	**	109864	Ethylene glycol monomethyl ether						20					93		
117	**	110496	Ethylene glycol monomethyl ether acetate						90							
118	*	75218	Ethylene oxide			3.0E-03			30					42		
119	*	96457	Ethylene thiourea			1.3E-05										
120	*	151564	Ethyleneimine			1.9E-02										
121	*	75343	Ethylidene dichloride			1.6E-06			500							
122		16984488	Fluoride						13							
123	*	50000	Formaldehyde	2.4E-03	1.9E-03	1.3E-05	**2.5E-08**	**Negl.**	9	**2.1E-04**	**Negl.**	7.4E-04	0.03353	55	**6.1E-04**	**Negl.**
124		98011	Furfural						50							
125			Gasoline vapors			1.0E-06			15							
126		111308	Glutaraldehyde						0.08							
127		765344	Glycidaldehyde						1							
128	*	76448	Heptachlor			1.3E-03										
129		1024573	Heptachlor epoxide			2.6E-03										
130	*	118741	Hexachlorobenzene			4.6E-04										
131	*	87683	Hexachlorobutadiene			2.2E-05										
132	**	319846	Hexachlorocyclohexane (alpha-)			1.8E-03										
133	**	319857	Hexachlorocyclohexane (beta-)			5.3E-04										
134	*	58899	Hexachlorocyclohexane (gamma-)			3.1E-04										
135	**	608731	Hexachlorocyclohexane (technical grade)			5.1E-04										
136	*	77474	Hexachlorocyclopentadiene						0.2							
137		19408743	Hexachlorodibenzo-p-dioxin, mixture			1.3E+00										
138	*	67721	Hexachloroethane			1.1E-05			30							
139	*	822060	Hexamethylene diisocyanate						0.01							
140	*	110543	Hexane (N-)	5.8E-02	4.6E-02				700	**6.5E-05**	**Negl.**	1.8E-02	0.80471			
141	*	302012	Hydrazine			4.9E-03			0.2					10		
142		10034932	Hydrazine sulfate			4.9E-03										
143	*	7647010	Hydrogen chloride						20					2100		
144	**	74908	Hydrogen cyanide						0.8					340		
145	*	7664393	Hydrogen fluoride						14					240		
146	**	7783075	Hydrogen selenide											5		
147		7783064	Hydrogen sulfide						2					42		
148	*	78591	Isophorone						2000							
149		67630	Isopropanol											3200		
150	*		Lead	1.6E-05	1.3E-05	1.2E-05	**1.5E-10**	**Negl.**				4.9E-06	8.9E-05	0.1	**8.9E-04**	**Negl.**
151	*	108316	Maleic anhydride						0.7							
152	*		Manganese	1.2E-05	9.6E-06				0.05	**1.9E-04**	**Negl.**	3.7E-06	0.00012	0.17	**7.0E-04**	**Negl.**
153	*		Mercury (elemental)	8.4E-06	6.6E-06				0.3	**2.2E-05**	**Negl.**	2.5E-06	0.00012			
154	*	7439976	Mercury (inorganic)	8.4E-06	6.6E-06				0.03	**2.2E-04**	**Negl.**	2.5E-06	0.00012	0.6	**1.9E-04**	**Negl.**
155		126987	Methacrylonitrile						0.7							
156	*	67561	Methanol						4000					28000		
157	*	74839	Methyl bromide						5					3900		
158	*	74873	Methyl chloride			1.8E-06			90							
159	*	71556	Methyl chloroform						1000					9000		
160		78933	Methyl ethyl ketone						5000					13000		
161	*	108101	Methyl isobutyl ketone											3000		
162	*	624839	Methyl isocyanate						1							
163	*	80626	Methyl methacrylate						700							
164		25013154	Methyl styrene (mixed isomers)						40							
165	*	1634044	Methyl tert butyl ether			2.6E-07			3000							
166		108872	Methylcyclohexane						3000							
167	*	101144	Methylene bis(2-chloroaniline) (4,4'-)			4.3E-04										
168	*	75092	Methylene chloride			1.3E-08			600					14000		
169	*	101779	Methylenedianiline (4,4-)			4.6E-04			20							
170	*	101688	Methylenediphenyl diisocyanate (4,4'-)						0.6							
171	*	60344	Methylhydrazine			1.0E-03			0.02							
172		90948	Michler's ketone			2.5E-04										
173	*		Mineral fibers (<1% free silica)						24							
174	*	91203	Naphthalene	2.0E-05	1.5E-05	3.4E-05	**5.2E-10**	**Negl.**	3	**5.1E-06**	**Negl.**	6.0E-06	0.00027			
175	*		Nickel and compounds	6.8E-05	5.3E-05	2.4E-04	**1.3E-08**	**Negl.**	0.014	**3.8E-03**	**Negl.**	2.1E-05	0.00094	0.2	**4.7E-03**	**Negl.**
176	**	1313991	Nickel oxide						0.02							
177	**		Nickel, soluble salts						0.2							
178		7697372	Nitric acid											86		
179		88744	Nitroaniline (o-)						0.05							
180	*	98953	Nitrobenzene			4.0E-05			9							
181	*	79469	Nitropropane (2-)			2.7E-03			20							
182		55185	Nitrosodiethylamine (N-)			4.3E-02										
183	*	62759	Nitrosodimethylamine (N-)			1.4E-02										
184		924163	Nitrosodi-n-butylamine (N-)			1.6E-03										

Georgia-Pacific Gypsum LLC

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	HAP	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF $[(ug/m^3)^{-1}]$	IR	Rslt	RfC (ug/m^3)	HQ	Rslt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	Rslt
185		621647	Nitrosodi-n-propylamine (N-)			2.0E-03										
186		86306	Nitrosodiphenylamine (N-)			2.6E-06										
187		156105	Nitrosodiphenylamine (p-)			6.3E-06										
188		10595956	Nitrosomethylethylamine (N-)			6.3E-03										
189	*	59892	Nitrosomorpholine (N-)			1.9E-03										
190		759739	Nitroso-n-ethylurea (N-)			7.7E-03										
191	*	684935	Nitroso-n-methylurea (N-)			3.4E-02										
192		100754	Nitrosopiperidine (N-)			2.7E-03										
193		930552	Nitrosopyrrolidine (N-)			6.1E-04										
194	*	87865	Pentachlorophenol			5.1E-06										
195	*	108952	Phenol						200					5800		
196	*	75445	Phosgene						0.3					4		
197	*	7803512	Phosphine						0.3							
198	*	7664382	Phosphoric acid						10							
199	*		Phosphorus (white)						0.07							
200	*	85449	Phthalic anhydride						20							
201	*	1336363	Polychlorinated biphenyls (PCBs)			1.0E-04										
202	*		Polycyclic aromatic hydrocarbons (PAHs)	See footnote "b"												
203	*		Polycylic organic matter (POM)													
204		7758012	Potassium bromate			1.4E-04										
205	*	1120714	Propane sultone (1,3-)			6.9E-04										
206	*	57578	Propiolactone (beta-)			4.0E-03										
207	*	123386	Propionaldehyde						8							
208		115071	Propylene						3000							
209	*	78875	Propylene dichloride			1.0E-05			4							
210		107982	Propylene glycol monomethyl ether						2000							
211	*	75569	Propylene oxide			3.7E-06			30					3100		
212	**		Selenium and compounds						20							
213		7631869	Silica (crystalline, respirable)						3							
214		1310732	Sodium hydroxide											8		
215	*	100425	Styrene			5.7E-07			1000					21000		
216	*	96093	Styrene oxide			4.6E-05										
217			Sulfates											120		
218		7664939	Sulfuric acid						1					120		
220	*	1746016	Tetrachlorodibenzo(p)dioxin (2,3,7,8-)			3.8E+01			0.00004							
221		630206	Tetrachloroethane (1,1,1,2-)			7.4E-06										
222	*	79345	Tetrachloroethane (1,1,2,2-)			5.8E-05										
223	*	127184	Tetrachloroethylene			5.9E-06			40					20000		
224		811972	Tetrafluoroethane (1,1,1,2-)						80000							
225		109999	Tetrahydrofuran						2000							
226		62555	Thioacetamide			1.7E-03										
227	*	7550450	Titanium tetrachloride						0.1							
228	*	108883	Toluene	1.1E-04	8.6E-05				5000	**1.7E-08**	**Negl.**	6.8E-03	0.31008	37000	**8.4E-06**	**Negl.**
229	*	584849	Toluene diisocyanate (2,4-)			1.1E-05			0.07					14		
230	*	26471625	Toluene diisocyanate (2,4-/2,6-)			1.1E-05			0.07							
231	*	91087	Toluene diisocyanate (2,6-)			1.1E-05			0.07							
232	*	95807	Toluene-2,4-diamine			1.1E-03										
233	*	95534	Toluidine (o-)			5.1E-05										
234	*	8001352	Toxaphene			3.2E-04										
235		76131	Trichloro-1,2,2-trifluoroethane (1,1,2-)						30000							
236	*	120821	Trichlorobenzene (1,2,4-)						2							
237	*	79005	Trichloroethane (1,1,2-)			1.6E-05										
238	*	79016	Trichloroethylene			4.8E-06			2					2		
239		75694	Trichlorofluoromethane						700							
240	*	88062	Trichlorophenol (2,4,6-)			3.1E-06										
241	*	121448	Triethylamine						7					2800		
242	*	1582098	Trifluralin			2.2E-06										
243		95636	Trimethylbenzene (1,2,4-)						7							
244		7440622	Vanadium	1.1E-04	8.6E-05				0.1	**8.6E-04**	**Negl.**	3.3E-05	0.00061	0.8	**7.6E-04**	**Negl.**
245		1314621	Vanadium pentoxide											30		
246	*	108054	Vinyl acetate						200							
247	*	593602	Vinyl bromide			3.2E-05			3							
248	*	75014	Vinyl chloride			8.8E-06			100					180000		
249	*	75354	Vinylidene chloride						200							
250	*		Xylene (m-,o-,p-, or mixed isomers)						100					22000		

If any calculated long-term or short-term effects for an air toxic result in "Further Evaluation Required" (FER) on this Risk Screening Worksheet, a Refined Risk Assessment is required for that air toxic.

NOTE:

* **Clean Air Act hazardous air pollutant**

** **Clean Air Act hazardous air pollutant, but not listed individually (part of a group)**

a Dioxins may be considered to be all 2,3,7,8-tetrachlorodibenzo(p)dioxin), or separated into congeners (contact AQEv).

b PAH or POM may be considered to be all benzo(a)pyrene, or separated into individual PAHs (contact AQEv).

The results are determined by comparing the long-term and short-term effects to the single-source thresholds, listed below.
The threshold value of negligible risk for incremental risk (IR) is 1 in a million (1.0E-06). An IR value less than or equal to 1 in million is considered negligible.
The threshold value of negligible risk for long-term hazard quotient (HQ) for non-carcinogenic risk is 1.0. An HQ less than or equal to 1.0 is considered negligible.
The threshold value of negligible risk for short-term hazard quotient (HQ_{st}) for non-carcinogenic risk is 1.0. An HQ_{st} less than or equal to 1.0 is considered negligible.

GP Industrial Plasters LLC
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May 31, 2019

Mr. Art Lehberger & Mr. Adam Pagarigan
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 East State Street, 2nd Floor
P.O. Box 420
Trenton, NJ 08625-0027

Re: GP Industrial Plasters LLC
Request to Increase Potential-to-Emit Emission Rates for Several Sources and Make Other Miscellaneous Minor Revisions to Title V Permit
Minor Modification to Title V Operating Permit No. BOP180001
Facility ID: 51611

Dear Mr. Lehberger and Mr. Pagarigan:

Georgia-Pacific Gypsum LLC (GP Gypsum) owns and operates a gypsum manufacturing plant in Camden, New Jersey (referred to as the "Camden Plant"). GP Gypsum's Camden Plant is categorized under the North American Industry Classification System (NAICS) No. 327420 and Standard Industrial Classification (SIC) Code 3275 for Gypsum Product Manufacturing.as an integrated facility in which gypsum plasters, gypsum specialty wallboard products are manufactured for sale to a variety of customers, although wallboard production is currently idled. The Camden Plant also produces a floor underlayment product called Soundmat, using a polypropylene resin extrusion process. The resin extrusion process is categorized under the NAICS No. 326199 and SIC Code No. 3089 for "Plastics Products, Not Elsewhere Classified". The Camden Plant also operates a reload center where gypsum wallboard manufactured by other GP Plants is shipped via rail and is reloaded to flatbed trucks for regional distribution.

GP Gypsum leases certain process equipment at the Camden Plant to GP Industrial Plasters LLC ("GP Plasters"), which conducts the gypsum plaster operations. GP Gypsum and GP Plasters both operate pursuant to Title V Operating Permit Activity Number BOP180001, issued by the New Jersey Department of Environmental Protection (NJDEP) on July 24, 2018, with an expiration date of July 27, 2020.

Reason for Application

The Plant is requesting the NJDEP to increase the potential-to-emit (PTE) emission rates for several sources at the Plant and to make several miscellaneous minor revisions to several other sources. The specific changes the Plant is requesting is summarized below:

- Changing the calculation of the PTE by using up-to-date AP-42 emission factors for certain pollutants (U8, U11);
- Changing the calculation of the PTE to using the exhaust gas flow rate from the baghouse used as a control device and an assumed outlet particulate matter (PM) concentration of 0.02 grains per dry standard cubic foot per minute instead of the method originally used (U10, U15, U17, U36, U37, U38, U39, U41);
- Changing the calculation of the PTE by using transfer and drop-point emission calculation methodology (U34);
- Crediting emission reductions (U2, U24, U51);
- Reducing PTE (U7, U11, U43);
- Changing the calculation of the PTE by using the corrected design exhaust gas flow rate for several baghouses used to control PM emissions, based on information from the baghouse vendor (U35, U43);
- Refining annual emission rates or actual emission rates without impacting PTE (U22, U24, U26, U39, U41, U43);
- Correction of transcription errors in the Title V permit (U15, U17);
- Reducing usage of ultra-low sulfur diesel fuel oil (U11, U24);
- Change U51 OS4 from "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt";
- Change U51 OS5 from "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt";
- Removing Insignificant and Significant Sources (IS22, IS23, U15, U23, U42, U52);
- Addition of Insignificant Source, a pyrolysis unit for polypropylene parts cleaning with a production rate <50 lb/hr (IS27).

This Minor Title V modification application includes the attachments listed below, each of which have been included in the New Jersey Department of Environmental Protection (NJDEP) Online Portal submittal.

Attachment A: RADIUS Application (as a PDF)
Attachment B: eNAT Subchapter 18
Attachment C: Risk Screening Worksheets (3)
Attachment D: Emission Calculations

Emission Calculations and Other Miscellaneous Revisions

Following is a description of the detailed changes impacting Potential-to-Emit (PTE); which include both increases and decreases. Also provided are notable changes (nomenclature, changes to emission rates not impacting PTE, other changes) being requested as part of this Minor Title V Modification. *Attachment D* contains the detailed emission calculations.

Changes Impacting Potential-To-Emit (PTE)

Emission Increases

U8 – Process Water Heater

Using current AP-42 emission factors for CO for industrial boilers burning natural gas with a heat input rating less than 100 MM Btu/hr, or 84 lb CO/MM scf, a heat content value for natural gas of 1,020 Btu/scf, and a heat input rating of 1.68 MM Btu/hr for the burner, the hourly CO emission rate is 0.14 lb/hr (0.082 lb/MM Btu) compared to the Permit limit of less than 0.05 lb/hr. Similarly, due to a change in the hourly CO emission rate, the annual CO emission rate will increase above the current permit limit of 0.26 tons/yr to 0.40 tons/yr, based on a maximum natural gas usage rate of 9,636 MM Btu/yr. GP requests NJDEP to increase the CO permit limit to 0.14 lb/hr and 0.40 tons/yr. GP is not requesting any changes in the CO permit limits that apply when firing ULSD fuel oil.

U10 – Board End Saw

The Plant requests NJDEP to increase the Title V TSP permit limit for the Board End Saw (E10) from less than 0.05 lb/hr and 0.22 tons/yr to 0.62 lb/hr (TSP/PM_{10}), 0.32 lb/hr ($PM_{2.5}$) and 2.7 tons/yr and 1.41 tons/yr, respectively. This source is controlled by baghouse CD4.

This is based on calculating the TSP/PM_{10} emission rate as shown below:

lb TSP/PM_{10}/hr = 0.02 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.62 lb/hr
tons TSP/PM_{10}/yr = 0.62 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 2.70 tons/yr

lb $PM_{2.5}$/hr = 0.010 grains/dscf x 3,596 dscfm x 60 min/hr / 7,000 grains/lb = 0.32 lb/hr
tons $PM_{2.5}$/yr = 0.32 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.41 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 3,800 acfm and multiplying it by correcting the actual temperature of 100 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U11 – Rock Dryer

The Plant is requesting NJDEP to lower the allowable use of ultra-low sulfur fuel oil from 956,900 gallons per year to 932,000 gallons per year. This is being done to ensure the Plant can meet the Title V permit NO_x emission limit of 9.32 tons per year, using the latest NO_x emission factor for the Rock Dryer burner from AP-42, for natural gas firing.

The Plant also requests NJDEP to raise the VOC limit for natural gas firing from 0.07 lb/hr to 0.1375 lb/hr and from 0.18 tons/yr to 0.37 tons/yr, based on using the latest VOC emission factor from AP-42, for natural gas firing.

U15 – Stucco Elevators

Scalping Screw Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Stucco Scalping Screw Elevator (OS3, E66) from less than 0.05 lb/hr to 0.076 lb/hr. This source is controlled by baghouse CD32.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 441.7 dscfm x 60 min/hr / 7,000 grains/lb = 0.076 lb/hr
tons TSP/yr = 0.076 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.33 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

Dry Additives Elevator

The Plant requests NJDEP to increase the Title V TSP permit limit for the Dry Additives Elevator (OS4, E59) from less than 0.05 lb/hr to 0.10 lb/hr. This source is controlled by baghouse CD34.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 589 dscfm x 60 min/hr / 7,000 grains/lb = 0.10 lb/hr
tons TSP/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.44 tons/yr

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD34, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Dry Additives Elevator, is 667 acfm (589 dscfm), and not 1,200 acfm, as stated on Page 640 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 667 acfm and multiplying it by correcting the actual temperature of 140 ºF to 70 ºF standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to revise the gypsum processing rate for the Dry Additives Elevator (OS4, E59) from 10,000 lbs/hr and 43,800 tons/yr as indicated under Reference Nos. 3-4 in the Title V permit to 100,000 lbs/hr and 438,000 tons/yr. The higher gypsum processing rates are the correct rates for this source and match the processing rates for the other stucco elevators listed under Emission Unit U15. The 10,0000 lbs/hr and 43,800 tons/yr values appear to be transcription errors.

U17 – Landplaster Pneumatic Conveying Process

The Plant requests NJDEP to increase the Title V TSP permit limit for the Landplaster Pneumatic Conveying Process (E17) from less than 0.05 lb/hr and 0.22 tons/yr to 0.081 lb/hr and 0.36 tons/yr. This source is controlled by baghouse CD8.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 473 dscfm x 60 min/hr / 7,000 grains/lb = 0.081 lb/hr
tons TSP/yr = 0.081 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.36 tons/yr

The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 500 acfm and multiplying it by correcting the actual temperature of 100 ^{o}F to 70 ^{o}F standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the total material transferred rate from 4,380 tons/yr as indicated under Reference No. 8 in the Title V permit to 43,800 tons/yr. The 4,380 appears to be a transcription error since the hourly material processing rate of 10,000 lbs/hr multiplied by 8,760 hrs/yr and divided by 2,000 lbs/ton should be 43,800 tons/yr and not 4,380 tons/yr.

U34 – Steele Feeder

The Plant requests NJDEP to increase the Title V TSP permit limit for the Steele Feeder (E40, E104) from less than 0.05 lb/hr and 0.22 tons/yr to 0.29 lb/hr (TSP) and 0.14 lb/hr (PM_{10}), and 1.27 tons/yr and 0.59 tons/yr, respectively. $PM_{2.5}$ remains below the reporting threshold of 0.05 lb/hr.

This is based on calculating the TSP emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb TSP/hr = 0.0055 lb/ton x 50 ton/hr = 0.27 lb/hr
E104 lb TSP/hr = 0.003 lb/ton x 50 ton/hr x 90% efficiency = 0.02 lb/hr

E40 tons TSP/yr = 0.27 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 1.20 tons/yr
E104 tons TSP/yr = 0.02 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.07 tons/yr

tons TSP/yr = 1.20 tons/yr + 0.07 tons/yr = 1.27 tons/yr

This is based on calculating the PM_{10} emission rate as shown below; which is a combined emission rate from E40 & E104:

E40 lb PM_{10}/hr = 0.0026 lb/ton x 50 ton/hr = 0.13 lb/hr
E104 lb PM_{10}/hr = 0.0011 lb/ton x 50 ton/hr x 90% efficiency = 0.01 lb/hr

E40 tons PM_{10}/yr = 0.13 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.57 tons/yr
E104 tons PM_{10}/yr = 0.01 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.02 tons/yr

tons PM_{10}/yr = 0.57 tons/yr + 0.02 tons/yr = 0.59 tons/yr

U35 – Densite® Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD25, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Densite® Bin, is 950 acfm (950 dscfm), and not 300 acfm, as stated on Page 649 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018. The change to a higher baghouse exhaust flow rate increases the TSP PTE emission rate to 0.163 lb/hr as shown below:

lb TSP/hr = 0.02 grains/dscf x 950 dscfm x 60 min/hr / 7,000 grains/lb = 0.163 lb/hr
tons TSP/yr = 0.163 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.714 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^{o}F is the same as the standard temperature of 70 ^{o}F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant requests NJDEP to increase the Title V TSP permit limit for the Densite® Bin (E42) from less than 0.05 lb/hr and 0.22 tons/yr to 0.163 lb/hr and 0.714 tons/yr.

U36 – Gypcrete/Rock Bin(s)

The Plant requests NJDEP to increase the Title V TSP permit limit for the Gypcrete/Rock Bin(s) (OS Summary) from 0.77 lbs/hr and 3.37 tons/yr to to 0.80 lbs/hr and 3.49 tons/yr.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 4,649 dscfm x 60 min/hr / 7,000 grains/lb = 0.80 lb/hr.
tons TSP/yr = 0.80 lbs/hr x 8,760 hrs/yr / 2,000 lbs/ton = 3.49 tons/yr

The Gypcrete/Rock Bin(s) use a baghouse (CD26) with an exhaust fan rated at 5,000 acfm to collect dust generated from the loading of the bins. The standard exhaust flow rate is calculated by taking the maximum exhaust actual air flow rate of 5,000 acfm and multiplying it by correcting the actual temperature of 110 ^{o}F to 70 ^{o}F standard temperature. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to increase the Title V TSP permit limit for the #1 Rock Bin Transfer - 11 Belt (OS3, E45), #2 Rock Bin Transfer - 11 Belt (OS4, E46), and the Rock Transfer – 10 Belt to 11 Belt (OS5, E47) from less than 0.05 lb/hr and 0.22 tons/yr to 0.059 lb/hr and 0.26 tons/yr.

This is based on calculating the TSP emission rate as shown below:

Emission Factors from AP-42, for controlled conveyor transfer points, Table 11.19.2-2:

TSP = 0.00014 lb/ton gypsum processed
TSP = 0.00014 lb/ton x 140 ton/hr x 3 conveyor drop points = 0.059 lb/hr
TSP = 0.059 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.26 tons/yr

See detailed emission calculations for PM_{10} and $PM_{2.5}$ values.

U37 – Accelerator Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Accelerator Bin (E48) from less than 0.05 lb/hr and 0.22 tons/yr to 0.051 lb/hr and 0.225 tons/yr. This source is controlled by baghouse CD27.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr
tons TSP/yr = 0.051 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.22 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

U38 – Impact Mill

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Nos. 1-2 (E48, E70) from less than 0.05 lb/hr and 0.22 tons/yr to 0.206 lb/hr and 0.902 tons/yr. This source is controlled by baghouse CD28.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 1,200 dscfm x 60 min/hr / 7,000 grains/lb = 0.206 lb/hr
tons TSP/yr = 0.206 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.902 tons/yr

The standard exhaust flow rate is the same as the actual flow rate of 1,200 acfm because the actual operating temperature of 70 ºF is the same as the standard temperature of 70 ºF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

The Plant also requests NJDEP to change the identification number of the baghouse used to control emissions from the Molding Plaster Bin Elevator OS3 (E61) from CD28 to CD23 only. CD31 controls emissions from the Impact Mill Feed Bin to the Impact Mill (E52) and the Impact Mill Feed Bin Elevator (E60) and is initially listed on Page 208 of 272 in Permit No. BOP180001, issued on 7-24-2018.

Creditable Emission Reductions

U2 – Kettle Calciners #1, #2 and #3

U2		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Kettle #1 & Kettle #2 & Kettle #3 (combined)	From BOP180001	2.94	2.94	2.94
	Proposed Renewal Values*	2.78*	2.78*	2.78*
	Reduction	*0.16*	*0.16*	*0.16*

U24 – Raymond Mill #1 and Raymond Mill #2

U24		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Raymond Mill #1 & Raymond Mill #2 (combined)	From BOP180001	2.55	2.55	2.55
	Proposed Renewal Values*	1.28*	1.28*	1.28*
	Reduction	*1.27*	*1.27*	*1.27*

U51 – Crusher Building and Transfer Tower

U51		TSP (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Crusher Building & Transfer Tower	From BOP180001	5.06	3.48	3.48
	Proposed Renewal Values*	1.38*	1.38*	1.38*
	Reduction	*3.68*	*2.10*	*2.10*

**Reference Attachment D – Emission Calculations for complete emission factors and calculation methodology.*

Emission Reductions that are not Creditable Emission Reductions (DC)

The PTE for the following sources is being decreased for the renewal. The facility is not considering the emission reductions as Creditable Emission Reductions (DC). The Emission Units (U7, U11, U43) have not been in operation since November 2010 and the cessation was a result of Administrative Consent Order (ACO) NEA090002-51611.

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U7	TSP	4.9	4.93	0.00*
	PM_{10}	4.9	4.31	0.59
	$PM_{2.5}$	4.9	3.98	0.92

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U11	TSP	21.38	19.71	1.67
	PM_{10}	12.25	12.25	0.00
	$PM_{2.5}$	12.25	12.25	0.00

Emission Unit	Pollutant	BOP180001 PTE	Renewal PTE	Calculated Decrease
U43	TSP	2.54	2.28	0.26
	PM_{10}	2.54	2.28	0.26
	$PM_{2.5}$	2.54	2.28	0.26

***TSP for U7 is represented as a zero decrease because of significant figures.**

Notable Changes

Emission Units No Longer Onsite and/or Removed from Service

Table C-1 summarizes those emission sources that are no longer onsite or permanently removed from service and that should be removed from the Title V permit. The Plant has disconnected the electric power connection and taken other steps to isolate and demonstrate inoperability for any units that have been permanently shut down and removed from service but remain onsite.

Table C-1 Emission Units No Longer Onsite and/or Removed from Service		
Emission Unit	**Emission Unit Description**	
IS22	**Temporary Diesel Generator (< 1 MM Btu/hr max. heat input, < 37 kw)**	**No longer onsite - remove from permit.**
IS23	**Temporary Storage Silo (< 2000 ft^3 capacity)**	**No longer onsite - remove from permit.**
U15	**Stucco Supply Elevator (E15); Stucco Recirculating Elevator (E16); Stucco Weigh Belt (E67).**	**All three units permanently shut down and removed from service – remove from permit.**
U23	**Pin Mixer**	**No longer onsite - remove from permit**
U42	**Ball Mill Nos. 1-4**	**Nos. 2-4 No longer onsite; No. 1 permanently shut down and removed from installation - remove all 4 ball mills from permit.**
U52	**Temporary Discharge Auger # 1**	**No longer onsite - remove from permit.**

Nomenclature Changes

The Plant requests the following revisions to the descriptions of several emission sources to match the descriptions commonly used by Plant personnel:

Emission Unit	Current Description in BOP180001	Proposed Description in Title V permit
U14	**LP Reserve Bin & Landplaster Bulk Loading**	**LP Bin #4 & Landplaster Bulk Loading**
U26	**Portland Cement Bin (aka Reserve Bin #4)**	**Portland Cement Bin**
U30	**Molding Plaster Bin/**	**Molding Plaster Bin**
U34	**Reclaim Feeder and Belt Conveyor**	**Steele Feeder**
U35	**Dens Cal Feed Bin**	**Densite® Feed Bin**
U36	**Blender/Packer System**	**Gypcrete/Rock Bin(s)**
U37	**Landplaster Bin #4 (aka Board Plant Landplaster Bin)**	**Accelerator Bin**
U47	**Reject Bin Dust Collector**	**Reject Bin**
U53	**Franklin Miller DeLumper**	**DeLumper**

Changes to Emission Rates That Do Not Increase the PTE (IA)

U22 – Stucco Reserve Storage Bin #1

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD13, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Stucco Reserve Storage Bin # 1, is 220 acfm (208 dscfm), and not 200 acfm, as stated on Page 644 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24,

2018. This change only slightly increases the TSP PTE emission rate as shown below, which remains below the NJDEP's reporting threshold of 0.05 lb/hr in Appendix to N.J.A.C. 7:27-22:

lb TSP/hr = 0.02 grains/dscf x 208 dscfm x 60 min/hr / 7,000 grains/lb = 0.036 lb/hr
tons TSP/yr = 0.036 lb/hr x 8,760 hrs/yr / 2,000 lbs/ton = 0.16 tons/yr

U24 – Raymond Mill Nos. 1 and 2

The Plant requests NJDEP to increase the hourly NO_x permit limit from 0.57 lbs/hr to 0.61 lbs/hr when firing ultra-low sulfur diesel (ULSD) fuel oil. This is based on using the ULSD fuel NO_x emission factor of 0.1216 lb/MM Btu for the burner and a maximum firing rate of 5.0 MM Btu/hr. The Plant is not requesting a change in the annual NO_x permit limit of 3.83 tons/yr when firing ULSD fuel.

The Plant requests NJDEP to reduce the allowable ULSD fuel oil usage rate from 479,323 gal/yr to 450,000 gal/yr to meet the NO_x permit limit of 3.83 tons/yr for both Mills based on the ULSD fuel NO_x burner emission factor.

U26 – Portland Cement Bin

Based on information we obtained from GP's baghouse vendor, the maximum exhaust air flow from Baghouse CD19, that controls TSP/PM_{10}/$PM_{2.5}$ emissions from the Portland Cement Bin is 950 acfm (846 dscfm), and not 750 acfm, as stated on Page 645 of 657 in the **Emission Unit/Batch Process Inventory** section of Title V Permit No. BOP180001, issued on July 24, 2018.

The Plant has taken a voluntary limit of 0.1 lbs TSP/PM_{10}/$PM_{2.5}$/hr and 0.4 tons TSP/PM_{10}/$PM_{2.5}$/yr for this source. The Plant will continue to accept a voluntary limit of 0.1 lbs/hr and 0.4 tons/yr for this source, with the higher exhaust flow rate of 950 acfm. As a result, the Plant is not requesting any changes in the current Title V permit limits of 0.1 lb/hr and 0.4 tons/yr.

U39 – Impact Mill Screen

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Screen (E50) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD29.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^oF is the same as the standard temperature of 70 ^oF. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U39) was not provided in the PTE calculations.

U41 – Impact Mill Feed Bin

The Plant requests NJDEP to increase the Title V TSP permit limit for the Impact Mill Feed Bin (E52) from less than 0.05 lb/hr to 0.051 lb/hr. This source is controlled by baghouse CD31.

This is based on calculating the TSP emission rate as shown below:

lb TSP/hr = 0.02 grains/dscf x 300 dscfm x 60 min/hr / 7,000 grains/lb = 0.051 lb/hr

The standard exhaust flow rate is the same as the actual flow rate of 300 acfm because the actual operating temperature of 70 ^{o}F is the same as the standard temperature of 70 ^{o}F. It is conservatively assumed that the moisture content of the exhaust gas is zero (0.0) percent, so no correction in the exhaust flow rate was made from actual to dry (standard) moisture content.

GP believes this change is covered under the Department's interpretation of Significant Figures (sigfigs). The values which are the basis of the calculations do not have more than one (1) sigfig: 0.02, 300, 60, 7000, therefore the calculate emission rate of 0.051 lb/hr should be accepted as 0.05 lb/hr. This Emission Unit (U41) was not provided in the PTE calculations.

U43 – Wet End Vacuum System

The Title V permit indicates a maximum exhaust flow rate of 10,000 acfm for dust collector CD35. However, the correct exhaust flow rate should be 10,500 acfm. After correcting the actual exhaust temperature of 130 ^{o}F to the standard temperature of 70 ^{o}F, the standard exhaust flow rate is equal to 9,432 scfm. Using an outlet concentration of 0.0065 grains/dscf, the TSP/PM_{10}/$PM_{2.5}$ emission rate is equal to 0.52 lb/hr and 2.28 tons/yr, assuming 8,760 hours of operation per year. The Plant is not requesting NJDEP to change the Title V permit limit of 0.58 lb/hr and 2.5 tons/yr.

Other Changes

U51 – Crusher Building and Transfer Tower

The Title V permit associates E111 (Wobbler Separator) with Belt #11 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #11 is a reversible conveyor transfer belt that feeds material into the two Rock Bins (OS3, E45 and OS4, E46) under Emission Unit U36. Similarly, the permit associates E110 (Crusher) with Belt #10 under the Emission Unit/Batch Process Inventory on Page 655 of 657 of Permit No. BOP180001, issued on 7-24-2018. However, Belt #10 is a conveyor transfer belt that feeds material to Belt #11 (OS5, E47) under Emission Unit U36.

The Plant requests NJDEP to change the name of U51 OS4 from the "#10 Belt" to the "Transfer from Gyratory Crusher to # 9 Belt". The Plant requests NJDEP to change the name of U51 OS5 from "the "#11 Belt" to the "Transfer from Wobbler Separator to # 9 Belt".

IS27 – Bake-Off Oven

The Plant is planning to install an electrically heated "Bake-Off" oven that will clean residual polypropylene resin from the spinneret plates used in the Resin Extruder (U54). Testing was conducted upon the "Bake-Off" oven at Georgia-Pacific's Research and Development Laboratory in Decatur, Georgia in January 2019.

Net Emission Increase Calculations

Per New Jersey Administrative Code Title 7, Chapter 27, Subchapter 18.7 of the (N.J.A.C. 7:27-18.7), an applicant must determine whether a potential emission rate proposed in a permit application would result in a significant net emission increase at the facility. Since this application has proposed potential increases in several pollutant emission rates, the Camden Gypsum Plant[1] is required to calculate the emissions increases and decreases that have occurred during the contemporaneous period[2].

The net emission increase is calculated using a specific formula listed under N.J.A.C. 7:27-18.7. The net emissions changes for each pollutant are then compared to the significant net emission increase levels in Table 3 of Subchapter 18.7.

A summary of the potential pollutant emission increases, the net emission increases and decreases from the contemporaneous period, and a comparison to the significant net emission increase thresholds are shown in Table 1.

Table. 1. Summary of Proposed Emission Increases (in tons per year)

Net Emissions Increases							
Pollutant	**TSP**	**PM_{10}**	**$PM_{2.5}$**	**VOCs**	**CO**	**NO_x**	**SO_2**
U8 - Process Hot Water Heater	---	---	---	---	0.14	---	---
U10 - Board End Saw	2.7	2.7	1.41	---	---	---	---
U11 - Rotary Rock Dryer	---	---	---	0.19	---	---	---
U15 - Stucco Elevators	0.77	0.77	0.77	---	---	---	
U17 - LP Pneumatic Conveying Process	0.14	0.14	0.07	---	---	---	---
U34 - Steele Feeder	1.27	0.59	0.11	---	---	---	---
U35 - Densite® Bin	0.49	0.49	0.15	---	---	---	---
U36 - Gypcrete/ Rock Bin(s)	0.12	0.12	0.06	---	---	---	---
U37 - Accelerator Bin	0.01	0.01	0.00	---	---	---	---
U38 - Impact Mill	0.90	0.90	0.90	---	---	---	---
Net Emissions Increase (IA)	6.40	5.72	3.48	0.19	0.14	0.00	0.00
Contemporaneous Period (06/01/2014 - 05/01/2019)	7.27	6.79	6.79	0.71	0.26	0.54	0.02
Creditable Emission Reductions (DC)	5.11	3.53	3.53	---	---	---	---
Toal Subchapter 18 Net Emission Increases (NI)[1]	8.56	8.98	6.74	0.90	0.40	0.54	0.02
Significant Net Emission Increase Thresholds (Table 3 of 7:27-18.7)	25	15	10	25	100	25	40

As shown in Table 1, the total net emission increase calculations show that none of the proposed increases in the PTE emission rates, in conjunction with the contemporaneous emissions increases, do not exceed any of the significant net increase thresholds, and as a result, the project does not result in a significant net emissions increase.

[1] The Camden Gypsum Plant includes all process equipment that comprises the Wallboard manufacturing operation as well as all process equipment that comprises the plaster manufacturing operation.

[2] The contemporaneous period, as defined under N.J.A.C. 7:27-18.1 means, in respect to newly constructed, reconstructed, or modified equipment, or a change in method of operation, occurring within a time period which includes:

1. The five years prior to the commencement of construction; and
2. The period between the commencement of the construction and the initiation of operation of the newly constructed, reconstructed, or modified equipment.

N.J.A.C 7.27-22.23 – Minor Modifications, applies when changes are made to an operating permit "which may increase actual emissions by an insignificant amount, and other changes which do not increase emissions, but may increase ambient concentrations of air contaminants." The changes proposed herein meet this definition and will be considered a minor modification. Additionally, as stated under this rule, an application for a preconstruction permit will not be required and the proposed changes will be incorporated into the Title V operating permit under this subpart.

The Title V permit contains the specific conditions that address monitoring and recordkeeping requirements for each of the emission sources that are part of this application.

GP understands that this Minor Title V Application will be reviewed and processed while the NJDEP reviews the Title V renewal application. Therefore, GP understands that the proposed increases in the PTE emission rates will not take effect until such time that a final Title V permit is renewed and issued by NJDEP.

If you have any questions regarding this application, please contact Ms. Ellen Speace at (856) 963-6936, (856) 397-7051, or by e-mail at ellen.speace@gapac.com.

Sincerely,

Robert P. Christensen, III
GP Industrial Plasters LLC
Plant Manager, Camden, NJ

enclosures: Attachment A: RADIUS Application (as a PDF)
Attachment B: eNAT Subchapter 18
Attachment C: U8, U11 & U24 Risk Screening Worksheets (3)
Attachment D: Emission Calculations

Attachment A
RADIUS Application (as a PDF)

Attachment B
eNAT Subchapter 18

Attachment C
Risk Screening Worksheets (3)

Attachment D

Emission Calculations

New Jersey Department of Environmental Protection
Division of Air Quality

Attachment to the RADIUS Air Operating Permit Renewal Application

Submittal Date: 05/31/2019

Facility Name: GEORGIA-PACIFIC GYPSUM LLC PI#: 51611

This package must be submitted as an attachment to the RADIUS Air Operating Permit Renewal Application. The forms contained in this package must not be altered. Use of any non-standard forms will require resubmittal of the renewal application. If the file is too large to submit, please perform a Save As to optimize the file for Fast Web View using Adobe PDF software. Contact the Department if this does not solve the problem, and you still have issues submitting this package.

New Jersey Department of Environmental Protection
401 East State Street, 2nd Floor, P.O. Box 420, Mail Code 401-02, Trenton, NJ 08625-0420

Operating Permits Helpline 609-633-8248

Revised Jun 29, 2018

Applying for an Air Operating Permit Renewal

This summary was prepared to assist you in renewing an operating permit. To continue lawful operation of a facility that has obtained an approved operating permit, a permittee must initiate the renewal of the operating permit by submitting a timely and administratively complete permit application. A complete operating permit renewal application consists of the RADIUS Air Operating Permit Renewal application forms and all forms contained in this package, along with any supporting documents (if needed).

1. **Timely**
   To be considered timely pursuant to N.J.A.C. 7:27-22.30(c), the Department must receive an administratively complete renewal application at least 12 months prior to expiration of the operating permit. The applicant is encouraged to voluntarily submit the renewal application at least 15 months prior to expiration of the operating permit, so that any deficiencies in the application can be addressed prior to the application due date. Only applications, which are administratively complete by the application deadline, will be eligible for coverage by an application shield.

2. **Administratively Complete**
   To be deemed administratively complete pursuant to N.J.A.C. 7:27-22.30(d), an operating permit renewal application must include all information requested in the RADIUS Air Operating Permit Renewal application forms and all forms contained in this package.

3. **Application Shield**
   The Department will grant an application shield when a timely and administratively complete application is received pursuant to N.J.A.C. 7:27-22.30(g). An application shield grants the right to operate the facility upon the expiration of its operating permit. If an operating permit has expired, the conditions of the operating permit remain enforceable until the operating permit is reissued. Unless a facility obtained an application shield, the right to operate the facility terminates upon the expiration of its operating permit pursuant to N.J.A.C. 7:27-22.30(i).

4. **Permit Changes During Renewal Process**
   Minor changes, such as those that would qualify for a seven-day-notice change or administrative amendment, may be made with the renewal pursuant to N.J.A.C. 7:27-22.30(d). Significant changes, such as those qualifying for a minor or significant modification, must be submitted as a separate permit application. The Department at its discretion may include approval of these proposed changes along with the approval of the renewal application.

5. **New HAP Reporting Thresholds**
   Pursuant to N.J.A.C. 7:27-22.30(l), for any operating permit expiring on or after February 12, 2021, HAP emissions from a source operation that equal or exceed the reporting threshold specified in N.J.A.C. 7:27-17.9(a) must be included during this operating permit renewal process. Any HAP that is not authorized in the operating permit in effect must be included through the submittal of a permit modification application pursuant to N.J.A.C. 7:27-22.23 or N.J.A.C. 7:27-22.24 as applicable.

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Section 1
Compliance Requirements

A. Compliance Assurance Monitoring (CAM) Applicability Determination

EPA developed 40 CFR 64 (Compliance Assurance Monitoring or "CAM") in order to provide reasonable assurance that facilities comply with emission limitations by monitoring the operation and maintenance of their control devices. In general, CAM applies to emission units that meet all of the following conditions:

1. The emission unit is located at a major source for which a Title V permit is required;
2. The emission unit is subject to an emission limitation or standard for a specific contaminant;
3. The emission unit uses a control device to achieve compliance with that specific contaminant's federally enforceable limit or standard;
4. The emission unit has potential pre-control or post-control emissions (of that specific contaminant) of at least 100% of the major source amount (see 40 CFR 64.2 - "Major facility"); and
5. The emission unit is not otherwise exempt from CAM (for exemptions, see 40 CFR 64.2(b)).

To learn more about the CAM program and for guidance on how to prepare a CAM plan, check EPA's website: https://www.epa.gov/air-emissions-monitoring-knowledge-base/compliance-assurance-monitoring.

After reviewing the information above, check the following boxes as applicable:

☐ **NO**, my facility **does not** have any emission units subject to CAM requirements.

☑ **YES**, my facility **does** have one or more emission units subject to CAM requirements, and

- ☑ A CAM plan is provided with this operating permit renewal application.
- ☐ A CAM plan will be submitted during the technical review of this renewal application.

B. Health Risk Assessment

1. Consistent with N.J.A.C. 7:27-22.3(cc), the Department will review each operating permit renewal application to ensure that emissions of Hazardous Air Pollutants (HAPs) do not pose a public health risk.

2. After receipt of the renewal application, the Department will notify applicants if a Facility-Wide Risk Assessment must be performed. A plot plan and air dispersion modeling protocol will be required in that case.

3. Previous Facility-Wide Risk Assessment, additions and changes in toxicity values or standards, and changes in the air model and/or the facility's location (in an Environmental Justice area, near a sensitive population etc.) will determine the need for health risk assessment.

C. Acid Rain Program

To learn more about Acid Rain Program, check EPA's website: https://www.epa.gov/airmarkets/acid-rain-program.

Check the following boxes as applicable:

☑ **NO**, this facility **is not subject** to the Acid Rain Program, codified at 40 CFR 72.

☐ **YES**, this facility **is subject** to the Acid Rain Program, codified at 40 CFR 72, and

- ☐ There have been no changes affecting my facility's Acid Rain Permit and a renewal application is provided with this operating permit renewal application.
- ☐ There have been changes affecting my facility's Acid Rain Permit and a revised/updated application is provided with this operating permit renewal application.

D. N.J.A.C. 7:27-18 Netting Analysis and General Operating Permit Determination

Air permit applications requesting air emissions increases are required to include a netting analysis to determine if the resulting net emission increase at the facility constitutes a significant net emission increase pursuant to N.J.A.C. 7:27-18.7. These netting analyses must be kept on site or submitted to the Department consistent with the Department's guidance included in the memo listed under "N.J.A.C. 7:27-18 Netting Analysis" and the "General Procedures for General Operating Permits" on the Department's webpage http://www.state.nj.us/dep/aqpp/permitguide.html and http://www.state.nj.us/dep/aqpp/gop.html, respectively. The Department intends to review these analyses at least once in 5 years unless no permit modifications proposing emissions increases were made and no GOPs were obtained during the past 5-year permit term. All netting analyses corresponding to a modification to increase emissions or a GOP must be submitted to the Department. Any netting analyses submitted with a modification application during the 5-year permit term do not need to be submitted again with the permit renewal application.

Check the following boxes as applicable:

☐ **NO**, this facility **has not made** permit changes resulting in emissions increases, including GOPs, since the last permit renewal.

☑ **YES**, this facility **has made** permit changes resulting in emissions increases, including GOPs, since the last permit renewal, and

- ☑ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, were provided with a modification application during the 5-year permit term.
- ☑ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, are provided with this permit renewal application.
- ☐ One or more netting analyses, prepared consistent with N.J.A.C. 7:27-18.7 during this permit term, will be submitted during the technical review of this permit renewal application.

Attachment to the RADIUS Air Operating Permit Renewal Application
Section 2
Certification

No additional certification is required when submitting the operating permit renewal application through NJDEP Online: http://www.nj.gov/dep/online/.

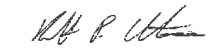
Complete the information below when submitting the operating permit renewal application on an electronic storage device, through the mail. Click on the icon on the signature line to add an image of a signature saved on your computer. If you do not have one, print the form out and manually sign on the line.

Facility PI#: 51611

Facility Name: GEORGIA-PACIFIC GYPSUM LLC

Responsible Official:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attached documents and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

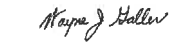
Name: ROBERT P. CHRISTENSEN **Signature:**  **Date:** 05/31/2019

Individuals with Direct Knowledge:

I certify under penalty of law that I believe the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

Name: ELLEN SPEACE **Signature:**  **Date:** 05/31/2019

Section Being Certified:

Name: WAYNE J. GALLER **Signature:**  **Date:** 05/31/2019

Section Being Certified:

Name: MATTHEW E. STRESING **Signature:**  **Date:** 05/31/2019

Section Being Certified:

Name: **Signature:** **Date:**

Section Being Certified:

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Section 3
Summary of 7-Day Notice Changes

Instructions
Complete this form if any 7-day notice changes were submitted to the NJDEP since the approval of the initial operating permit or most recent renewal thereof. With this information, the NJDEP will include the provisions of any eligible 7-day notice changes into the renewed permit.

No.	Date of 7-Day Notice	Brief Description of Change
		N/A

The forms contained in this attachment must not be altered. Use of any non-standard forms will require resubmittal of the renewal application.

Section 4
Summary of the results from Stack Testing and Monitoring

Instructions
Complete this form if the permit required stack emissions testing, continuous emissions monitors or continuous opacity monitors.

Subject Item U / BP	OS / Ref #	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement	In Compliance?	
						Yes	No
		N/A					

Make additional copies of this form if needed.

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Section 5
Compliance Status

Instructions
Please read these instructions prior to completing the following form.

1. Subject Item: List each subject item from Section D, Compliance Plan and Inventories, of the operating permit in this column. Subject items include Facility (FC), Group (GR), Non-Source Fugitive Emissions (FG), Insignificant Source (IS), Batch Process (BP), and Emission Unit (U). (Operating Scenario and Reference Numbers are required only for Non-Compliance permit requirements. See item 2 below).

2. Compliance Status: Provide compliance status for each subject item in this column. If all the permit requirements for a subject item (for example an emission unit) are in compliance, write "In Compliance". If one or more permit requirements are out of compliance for a particular subject item, provide the Operating Scenario and Reference Number for each out of compliance requirement in the first column and write "Non-Compliance" in the 2nd column. (Reference Numbers for each applicable requirement are located in the first column of Facility Specific Requirements, Section D of the permit).

3. Method Used to Determine Compliance: Describe how compliance was determined in this column. If all the permit requirements for a subject item (for example an emission unit) are in compliance, write "Consistent with all methods listed in monitoring and recordkeeping permit requirements". If one or more permit requirements are out of compliance for a particular subject item, provide the Operating Scenario and Reference Number for each out of compliance requirement in the first column and provide specific method used to determine compliance in the 3rd column.

4. Compliance Schedule: insert a "No" if there are no compliance schedules included in this application to address non-compliance issues for which "Non-Compliance" was inserted in the 2nd column. Insert a "Yes" if a compliance schedule is included in this renewal application to address non-compliance issues in the approved permit or non-compliance issues disclosed in this application.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item FC *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item FG *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS2 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item IS3 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS4 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS5 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item IS10 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS11 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS13 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Attachment to the RADIUS Air Operating Permit Renewal Application

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item IS14 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS15 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS16 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item IS22 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS23 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS24 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item IS25 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item IS26 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U2 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U6 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U7 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U8 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

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Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U9 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U10 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U11 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

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Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U14 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U15 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U17 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U18 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U19 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U20 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U21 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U22 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U24 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

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Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U26 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U27 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U28 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U29 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U30 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U31 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U34 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U35 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U36 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U37 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U38 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U39 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U40 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U41 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U43 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

Make additional copies of this form if needed.

Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U44 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U47 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U51 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No

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Section 5
Compliance Status

Instructions
Read the instructions on the previous page before completing this form.

Subject Item OS / Ref #	Compliance Status (In Compliance Non-Compliance)	Method Used to Determine Compliance	Is a Compliance Schedule Attached? (Yes/No)
Subject Item U53 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item U54 *OS / Ref #*	In Compliance	CONSISTENT WITH ALL METHODS LISTED IN MONITORING AND RECORDKEEPING PERMIT REQUIREMENTS.	No
Subject Item *OS / Ref #*			

Make additional copies of this form if needed.

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Section 5
Compliance Schedules

Instructions
Complete this form if the permit included any compliance schedules (Section D of the permit) or if there are any non-compliance issues at the time of completing this application form. Check the appropriate box to indicate whether the compliance schedule has been updated, removed, or added.

Subject Item / OS / Ref #	Requirement	Compliance Schedule	Compliance Schedule		
			Updated	Removed	Added
Subject Item U7	Violated Requirement 4 VOC (Total) <= 5.87 lb/hr	ACO NEA090002-51611	✓		
	Violated Requirement 7 TSP <= 1.01 lb/hr	ACO NEA090002-51611			
OS / Ref # OS1					
Subject Item U7	Violated Requirement 11 TSP <= 1.4 lb/hr	ACO NEA090002-51611	✓		
OS / Ref # O2					
Subject Item U7	Violated Requirement 3 VOC (Total) <= 5.87 lb/hr	ACO NEA090002-51611	✓		
OS / Ref # OS5					

Make additional copies of this form if needed.