Procter&Gamble

The Procter & Gamble Company
Sharon Woods Innovation Center
11510 Reed Hartman Hwy, Cincinnati, OH 45241

November 15, 2017

Steven R. Pursley, PE
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

RE: Procter and Gamble – Tabler Station – Minor NSR Air Quality Permit R13-3316, Class II Amendment Application

Dear Mr. Pursley:

As you know, Procter and Gamble (P&G) is constructing a consumer products facility in Berkeley County, West Virginia near the unincorporated community of Tabler Station. The Tabler Station facility will be comprised of a surfactant-making process, liquid soap making process, dry consumer laundry and cleaning products, plastics molding container suppliers, and utilities.

The original application was submitted October 11, 2016, and approved on December 16, 2016. The purpose of this application is to request a Class II administrative update to the permit to incorporate the following changes:

1. Addition of a new process area called "Liquid Soap C", which contains raw material tanks, dry raw material unloading, finished consumer product making, blending, and packaging operations, and a bulk loadout area.
2. Expansion of existing surfactant capabilities, including additional raw material tanks, mixing tanks, and a bulk loadout area.
3. Changes to the emergency generators[1] at the site, including
    a. Elimination of 2 planned and permitted 350 kW diesel emergency generators
    b. Addition of 1-600 kW diesel emergency generator
    c. Addition of 1-200 kW diesel emergency generator
    d. Addition of 1-200 kW natural gas emergency generator
4. Changes to the projected printing ink usage at the site.
5. Addition of a cooling tower.

The proposed changes result in a plant-wide increase in particulates of 0.11 tons per year (tpy), oxides of nitrogen 1.34 tpy, carbon monoxide 0.77 tpy, volatile organic compounds 4.96 tpy, and hazardous air pollutants 0.48 tpy. These changes do not affect the facility's classification as a minor source for Prevention of Significant Deterioration and Title V.

[1] The generators are subject to the recordkeeping and monitoring requirements of New Source Performance Standard Subpart IIII or Subpart JJJJ. Emissions standards may be found in Table 1 in 40 CFR 89.112 (for Subpart IIII) or Table 1 in 40 CFR 60, Subpart JJJJ.

We appreciate your continued support of the P&G-Tabler Station project and your review of this amendment. Please feel free to contact me at 513-765-0497 or Ms. Allison Cole of Trinity Consultants at 540-342-5945 with any questions on the proposed changes.

Sincerely,

J. Andrew Hadley
Environmental, Health, Safety, & Sustainability Manager
Procter & Gamble - NA Product Supply Engineering

Enclosure
cc (w/o enclosure): Mr. Russell Bailey – Trinity Consultants; Ms. Allison Cole - Trinity Consultants

CLASS II ADMINISTRATIVE AMENDMENT

Procter and Gamble

Tabler Station, West Virginia

Prepared By:

TRINITY CONSULTANTS
15 E Salem Ave.
Suite 201
Roanoke, VA 24011
(540) 342-5945

Submitted: November 2017

Project 174701.0020

Trinity Consultants

Environmental solutions delivered uncommonly well

TABLE OF CONTENTS

1.1. FACILITY AND PROJECT DESCRIPTION

Procter and Gamble (P&G) is submitting this Class II administrative amendment application to the West Virginia Department of Environmental Protection (DEP) for the addition of liquid soap manufacturing ("liquid soap making C"), changes to the existing surfactant making area, and changes to the existing utilities area at a facility in Berkley County, West Virginia in the unincorporated community of Tabler Station (Tabler Station facility).

An initial Rule-13 (R-13) permit application was submitted on October 11, 2016 and the final permit was granted on December 16, 2016. Approval of this application allowed the Tabler Station facility to begin construction on a greenfield facility that will produce liquid soap and dry consumer laundry and cleaning products, including dryer applied fabric softener, shampoo, and body wash. The facility will also produce surfactant paste and raw materials which will be used in liquid soap making processes at this facility and other P&G facilities. The facility will have utilities to support the heating, cooling, ventilation, and steam needs of the manufacturing processes. The facility will incorporate third party suppliers who will provide a plastics molding process for the manufacture of bottles, caps, and other formed plastic parts. The addition of liquid soap C and changes to the surfactant making area and utilities area are part of the next phase of construction ("Phase 2"). Additional phases are still undergoing detailed design and will be permitted at a later date.

As indicated in the original R13 permit application, the equipment and operations at the facility are being installed and started-up in multiple phases. It is anticipated that all phases of this project will be permitted, installed, and operated within 5 years of beginning construction. A thorough analysis of the current scope of the entire facility and planned operations indicates that all phases together do not trigger major new source review (major NSR) permitting, also called prevention of significant deterioration (PSD) permitting.

A description of each source category applicable to the current project can be found in Section 2. A process flow diagram for the planned Phase 2 operations is included in Attachment F.

1.2. R-13 APPLICATION ORGANIZATION

This R-13 permit application is organized as follows:

- Section 2: Sample Emission Source Calculations;
- Section 3: R-13 Application Forms;
- Attachment A: Business Certificate;
- Attachment C: Installation and Start Up Schedule;
- Attachment D: Regulatory Applicability Discussion;
- Attachment E: Plot Plan;
- Attachment F: Detailed Process Flow Diagram;
- Attachment G: Process Description;
- Attachment H: Material Safety Data Sheets
- Attachment I: Emission Units Table;
- Attachment J: Emission Points Data Summary Sheet;
- Attachment K: Fugitive Emissions Data Summary Sheet;
- Attachment L: Emissions Unit Data Sheets;
- Attachment N: Supporting Emission Calculations; and
- Attachment P: Public Notice; and
- Strike-through permit.

As part of this phase of the project, P&G proposes to install equipment in several distinct manufacturing areas:

- Utilities;
- Liquid Soap Making C; and,
- Surfactant Manufacturing.

Each of these business areas will be discussed in greater detail in this section. Process flow diagrams are included as Attachment F for Liquid Soap C and surfactant manufacturing.

In addition, the characteristics of expected site air emissions, along with the methodology used for calculating emissions from the proposed new sources, are described in narrative form below. The Tabler Station facility generally has the potential to emit the following pollutants:

- Oxides of nitrogen (NO_X);
- Sulfur dioxide (SO_2);
- Sulfur Trioxide (SO_3);
- Carbon monoxide (CO);
- Sulfuric Acid (H_2SO_4);
- Volatile organic compounds (VOC);
- Hazardous air pollutants (HAP);
- Particulate matter (PM);
- Particulate less than 10 micrometers (PM_{10}); and
- Particulate less than 2.5 micrometers ($PM_{2.5}$).

Detailed supporting calculations are also provided in Attachment N.

2.1. UTILITIES

2.1.1. Process Description

To support the heating, cooling, ventilation, and steam needs for the processes that are being proposed with this facility, P&G is proposing to install the following additional equipment:

- One (1) cooling tower, bringing the site total to four (4) cooling towers

To be prepared for power outages, PG is eliminating the following previously permitted equipment from the permit:

- Two (2) 350 KW standby/backup electric generators with diesel engines

And replacing it with:

- One (1) 600 kW standby/backup electric generator with a diesel engine;
- One (1) 200 kW standby/backup electric generator with a diesel engine; and
- One (1) 200 kW standby/backup electric generator with a natural gas engine.

The 600kW standby/backup generator will meet U.S. EPA's Tier 2 specifications. The other standby/backup generators will meet U.S. EPA's Tier 3 specifications.

Emissions calculations for the above listed equipment are enclosed in Attachment N of the application. Emissions have been estimated using vendor supplied information, U.S. EPA tier specifications, and applicable AP-42 factors.

2.1.2. Emissions Calculations

2.1.2.1. Standby/Backup Generators

The three new generator engines will be subject to the emission limitations in either new source performance standards (NSPS) Subpart IIII or Subpart JJJJ (the engine will only be subject to the notification requirements of national emissions standards for hazardous air pollutants [NESHAP] Subpart ZZZZ). To verify compliance with these standards, emissions from the engines are calculated based on emissions factors provided by the manufacturers or U.S. EPA tier specifications. Since this equipment will only operate during emergency situations and routine maintenance and testing, annual emissions are calculated based on 500 hours of operations.[1]

2.1.2.2. Cooling Towers

The Tabler Station facility includes four cooling towers. The anticipated pollutants are PM, PM_{10}, and $PM_{2.5.}$ Potential hourly emissions from the cooling towers are calculated using the methodology in AP-42 Section 13.4-1.

2.2. LIQUID SOAP MAKING C

2.2.1. Process Description

The liquid soap C manufacturing process involves a mixing and blending operation with a few chemical transformations. Raw materials will either be piped from elsewhere onsite, unloaded from trucks to bulk tanks, or be transported to the site in totes which will be unloaded into the building for placement into the mixing system. Raw materials are received in solid or liquid form. Raw materials are pumped from the totes or from onsite storage tanks for blending. The blending occurs in piping on a batch basis, which results in minimal VOCs emitted from the manufacturing process. The resultant mixture represents the final product. Variations of the mixture are dependent upon the soap product to be manufactured. The product, once made, is piped into a bottle filling line. After filling, the product will proceed to packaging for off-site transport. Alternatively, the soap product may be loaded into truck via a pipe line for packaging at an external facility.

[1] https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf

The emission sources for the soap manufacturing process include:

- Storing raw materials in tanks, totes, or drums;
- Blending of powdered raw materials;
- Bottle filling; and,
- Truck loading.

Emissions estimates for the liquid components are based on the raw materials with the highest vapor pressure to account for the potential VOC emissions to represent the multiple formulations in the soap manufacturing process. Emissions estimates can be found in Attachment N.

Perfume may be used in the process. Emission points that have the potential to emit odor may be controlled with activated carbon. The activated carbon serves to reduce risk of nuisance odor and for employee comfort, rather than control of criteria pollutants, such as VOC. As such, it will not be considered a control device in this application.

2.2.2. Emissions Calculations

2.2.2.1. Vertical Fixed Roof Tank Emission Calculation Methodology

The proposed liquid soap making C area includes fixed roof storage tanks. Some of these tanks are "Soap Tanks,"[2] which are exempt emission units for R-13 permitting, per 45 CSR 13, Table 45-13B. The soap tanks were not given a tank number, but VOC emissions were quantified from them for PSD-applicability using procedures in AP-42 Section 7.1.

Fixed roof tanks typically have two major types of emissions: working losses and breathing losses. Working losses occur during the day-to-day operations of the tank from the release of the vapor space as the tank is filled and emptied. Breathing losses occur at outdoor ambient tanks that are subject to daily temperature changes with the weather. A majority of the tanks at the Tabler Station facility are temperature controlled and/or indoors and, as such, do not have breathing losses.

The tanks at the Tabler Station facility contain a variety of organic materials used in the manufacture of liquid soap and dry consumer laundry and cleaning products. Emissions from tanks containing raw materials were calculated using the specific properties of that material. Emissions from tanks containing intermediate materials or mixtures were calculated using Raoult's law[3] and the properties of the most volatile component of the mixture.

[2] "Storage tanks, reservoirs and pumping and handling equipment of any size containing soaps, vegetable oil, animal grease or fat and aqueous salt solutions, provided appropriate lids and covers are utilized, excluding rendering plants." Table 45-13B, Number 49.

[3] The partial vapor pressure of each component in an ideal mixture of liquids is equal to the vapor pressure of the pure component multiplied by its mole fraction in the mixture.

2.2.2.2. Liquid Material Handling

As discussed in Section 2.2.1, several of the products contain organic liquids with a range of volatility. Fugitive emissions of VOC that occur during the mixing of raw materials, intermediates and products or transfer and packaging of products, are calculated through the use of a working loss equation; this equation calculates the emissions that result from lost vapors due to liquid movement when tanks are being filled or emptied and can be found in AP-42 Section 7.1 as Equation 1-29. This working loss due to liquid movement is similar to what occurs when mixing or packaging liquid raw materials, intermediates, and products and therefore is used for estimating the associated emission rate.

2.2.2.3. Powdered Raw Materials

Fugitive emissions of particulate matter that occur during the unloading of powdered raw materials are calculated through the use of an AP-42 emission factor for sodium carbonate (AP-42, Section 8.12, Table 8.12-2, Factor for soda ash storage/loading and unloading).

2.2.2.4. Truck Loading and Unloading

The transfer of organic chemicals into and out of trucks will occur as a part of the liquid soap C operations at the Tabler Station facility. Final products that are loaded into trucks produce vapors containing VOC. The emissions from unloading of trucks are assumed to be accounted for in the working losses of the storage tanks. The emissions from the loading of trucks are calculated using Equation 1 in AP-42 Section 5.2.

A saturation factor of 0.6 is selected based on Table 5.2-1 of AP-42 Section 5.1 for bottom/submerged loading of a truck during normal loadout. VOC concentration is assumed to be 100%.

2.3. SURFACTANT MAKING

2.3.1. Process Description

P&G proposes to install additional equipment to manufacture surfactants. The purpose of the surfactant making operation is primarily to manufacture surfactant used in the liquid soap C manufacturing process which is included in this application.

This surfactant process is expected to emit a small amount of VOC. Emissions are calculated for the surfactant manufacturing can be found in Attachment N. Proposed emission sources in the surfactant processes include the following:

- Raw material, intermediate, and product tanks;
- Mixing tanks; and,
- Product truck and rail loading.

2.3.2. Emissions Calculations

Emissions calculation methodology for tanks and truck loading have already been discussed in Section 2.2.2.

2.4. SOURCES OF MINOR SIGNIFICANCE

Each of the process areas contain emissions units that P&G defines as "sources of minor significance." Some of these sources are already defined as de minimis sources by DEP in 45 CSR 13, Table 45-13b, such as haul road emissions, lab vents, soap tanks, and welding.

P&G wishes to define an additional de minimis source category for the Tabler Station facility. This category will encompass VOC-containing vertical fixed roof tanks that have emissions of 0.005 tpy VOC or less. The majority of these "low-VOC" tanks are found in the Liquid Soap lines (A, B, C), and contain raw ingredients with low volatility. The current scope of the facility encompasses approximately 100 "low-VOC" tanks, which when summed together is less than 0.5 tpy and 0.1 lb/hr of VOC emissions. P&G projects that the total VOC emissions from all "low-VOC" tanks at the facility will remain less than 1 tpy.

P&G proposes that the "low-VOC" tanks not be given a tank number, but VOC emissions will be quantified from them for PSD-applicability using procedures in AP-42 Section 7.1. PG proposes to maintain a list of "low-VOC" tanks onsite.

3. R13 APPLICATION FORM

The DEP permit application forms contained in this application include all applicable R-13 application forms including the required attachments.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☒ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office)*:
Procter and Gamble Manufacturing Company

2. Federal Employer ID No. ***(FEIN)***:
31-0411982

3. Name of facility *(if different from above)*:
Tabler Station

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
The Procter & Gamble Company
Sharon Woods Innovation Center
A2M11-3
11510 Reed Hartman Highway
Cincinnati, OH 45241

5B. Facility's present physical address:
Procter & Gamble
396 Development Drive
Inwood, WV 25428

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**
- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: **N/A**

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**
- If **YES,** please explain: **Procter and Gamble owns the site.**
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.):
Facility will produce liquid consumer products and dry consumer laundry and cleaning products.

10. North American Industry Classification System **(NAICS)** code for the facility:
325612, 325613, 325620, 325611

11A. DAQ Plant ID No. (for existing facilities only):
003-00154

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-3316C~~B~~

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. **Include a MAP as Attachment B.**

Exit US Route 81 at exit 8 for Tabler Station Road. Proceed East on Tabler Station Road for 1.1 miles to Development Drive. Turn left on Development Drive and proceed approximately 0.2 miles to site entrance

12.B. New site address (if applicable):	12C. Nearest city or town: **Inwood, WV**	12D. County: **Berkeley County, WV**
12.E. UTM Northing (KM): **4,366**	12F. UTM Easting (KM): **757**	12G. UTM Zone: **17S**

13. Briefly describe the proposed change(s) at the facility:
New Liquid Soap Making Area ("Liquid Soap Making C"), additional surfactant-making equipment, additional utilities

14A. Provide the date of anticipated installation or change: **01/01/2018** – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: **11/01/2018**

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day **24** Days Per Week **7** Weeks Per Year **52**

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ☒ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .
– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☒ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	☒ Storage Tanks
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	

☒ General Emission Unit, specify - **Ink, Liquid Soap C Packing and Filling**

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ YES ☒ NO

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: 11/15/17

(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: **Francisco Lanza**		35C. Title: Manufacturing Capability Associate Director
35D. E-mail: lanza.fs@pg.com	36E. Phone: 513-626-6440	36F. FAX:
36A. Printed name of contact person (if different from above): **Drew Hadley**		36B. Title: **Environmental Health and Safety Manager NA Supply Network Design**
36C. E-mail: **hadley.ja@pg.com**	36D. Phone: **513-765-0497**	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☐ **Attachment B: Map(s)**
- ☒ **Attachment C: Installation and Start Up Schedule**
- ☒ **Attachment D: Regulatory Discussion**
- ☒ **Attachment E: Plot Plan**
- ☒ **Attachment F: Detailed Process Flow Diagram(s)**
- ☒ **Attachment G: Process Description**
- ☒ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☒ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☐ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☐ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☐ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ ***Forward 1 copy of the application to the Title V Permitting Group and:***
- ☐ ***For Title V Administrative Amendments:***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit,***
- ☐ ***For Title V Minor Modifications:***
  - ☐ ***Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit.***
- ☐ ***For Title V Significant Modifications processed in parallel with NSR Permit revision:***
  - ☐ ***NSR permit writer should notify a Title V permit writer of draft permit,***
  - ☐ ***Public notice should reference both 45CSR13 and Title V permits,***
  - ☐ ***EPA has 45 day review period of a draft permit.***

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A

Current Business Certificate

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
THE PROCTER AND GAMBLE MANUFACTURING COMPANY
1 PROCTER AND GAMBLE PLZ
CINCINNATI, OH 45202-3315

BUSINESS REGISTRATION ACCOUNT NUMBER: **2310-7855**

This certificate is issued on: **02/27/2015**

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L1208926528

State of West Virginia

Certificate

I, Natalie E. Tennant, Secretary of State,
of the State of West Virginia, hereby certify that

The Procter and Gamble Manufacturing Company

has filed the appropriate registration documents in my office according to the provisions of the West Virginia Code and hereby declare the organization listed above as duly registered with the Secretary of State's Office.

Given under my hand and
the Great Seal of West Virginia
on this day of
February 23, 2015

Natalie E Tennant

Secretary of State

ATTACHMENT C

Startup and Installation Schedule

Attachment C		
Schedule of Planned Installation and Start-Up		
Unit	**Installation Schedule**	**Startup Schedule**
Liquid Soap C, Surfactants, Utilities	January 2018	November 2018

ATTACHMENT D

Regulatory Applicability Discussion

ATTACHMENT D – REGULATORY APPLICABILITY

This section documents the applicability determinations made for Federal and State air quality regulations. In this section, applicability or non-applicability of the following regulatory programs is addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Minor New Source Review;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP); and
- West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the West Virginia Department of Environmental Protection (DEP) Rule 13 (R-13) permit application forms. In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the DEP to confirm that identified regulations are not applicable to the proposed project. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Tabler Station facility. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, Standards of Performance for Petroleum Refineries).

Prevention of Significant Deterioration (PSD) Source Classification

Federal construction permitting programs regulate new and modified sources of attainment pollutants under PSD and new and modified sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). The Tabler Station facility will be located in Berkeley County, West Virginia, which is designated as in attainment/unclassifiable for all pollutants. Therefore, PSD permitting is potentially applicable to the facility. PSD permitting in West Virginia is regulated under Title 45, Series 14, West Virginia Code of State Regulations (45 CSR 14).

PSD permitting applies to construction of new major stationary sources or any physical change in, or change in the method of operation of an existing major stationary source that results in a significant emissions increase. A major stationary source for PSD is defined as:

- Any source in one of the listed source categories in the definition of "major stationary source" per 45 CSR 14-2.43 with the potential-to-emit (PTE) of 100 tons per year (tpy) or more of traditionally regulated pollutants, or
- Any source not in one of the listed source categories with a PTE of 250 tpy or more of any traditionally regulated pollutant.

A review of the legislative background and PSD regulations does not clearly indicate standard industrial classification (SIC) as the defining factor for categorization of a facility as a chemical process plant. However, the United States Environmental Protection Agency (U.S. EPA) has historically interpreted the category "chemical process plants" as including any activity listed under SIC major grouping 28 (with a recent specific exception for ethanol production facilities). SIC 28 has a broader scope than sites where chemical processes are occurring, as SIC 28 is defined as Chemicals and Allied Products, and not simply chemicals. The Allied Products portion of SIC 28 includes multiple activities where there is no chemical processing at all, such as physical blending of ingredients to make finished chemical products to be used for ultimate consumption such as drugs, cosmetics, and soaps [cited from SIC 28 definition]. Most of the proposed site would be classified under SIC 284,

SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS

Following the U.S. EPA's historic determination, these non-chemical process areas would be considered to be chemical process plants, and thus the facility falls into the group of source categories subject to a 100 tpy major source threshold. Because the facility-wide PTE for each pollutant is less than 100 tpy, the Tabler Station facility will be a new minor source under PSD. As such, PSD permitting is not triggered by this construction activity.

The Tabler Station facility is anticipated to include additional process areas as part of the overall scope of the Tabler Station project. Any additional process areas related to the project which are currently undergoing detailed design will be permitted at a later date. It is anticipated that all phases of this project will be permitted, installed, and operational within 5 years of beginning construction. A thorough analysis of the current scope of the entire facility and planned operations indicates that all phases together do not trigger PSD permitting.

Minor New Source Review Source Classification

The minor (or state) NSR program is codified in 45 CSR 13, and is typically known as an R-13 permit. The Tabler Station facility has an R-13 permit (R13-3316C, issued December 16, 2016, modified November 8, 2017). The proposed changes to the potential emission rate for the facility are compared against the emission threshold in 45 CSR 13-2.17 to determine if the changes constitute a permit modification (6 pounds per hour, 10 tons per year, or 144 tons per day of regulated air pollutants). As calculated in Attachment N, the emissions for the proposed project are less than the thresholds for a permit modification. In compliance with R-13, P&G is submitting the attached Class II amendment application for the installation of an additional Liquid Soap Making line ("Liquid Soap Making C"), an expansion of the existing surfactant -making area, and changes to the utilities area at Tabler Station, West Virginia.

Title V Operating Permit Program

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in 45 CSR 30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single HAP, 25 tpy of any combination of HAPs, and 100 tpy of all other regulated pollutants.[1] The potential emissions of VOC are below the 100 tpy threshold at this facility. Therefore, the Tabler Station facility is not a major source for Title V purposes.

New Source Performance Standards

NSPS require new, reconfigured, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, unless specifically excluded. Following is a discussion of potentially applicable subparts for the proposed emission sources at the Tabler Station facility.

NSPS Subpart A – General Provisions

Any source subject to a NSPS is also subject to the general provisions of NSPS Subpart A, unless specifically excluded.

[1] U.S. EPA's Tailoring Rule had established a Title V major source threshold of 100,000 tpy of greenhouse gas pollutants or GHGs (on a carbon dioxide equivalent [CO_2e] basis). However, on June 23, 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA*, whereby the Court said that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. Case No. 12-1146, decided June 23, 2014. http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf .

NSPS Subpart Kb – Storage Tanks

NSPS Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*, regulates storage vessels with a design capacity greater than or equal to 75 cubic meters (m^3) that store volatile organic liquids. The standards are effective for all facilities for which construction, reconstruction, or modification commenced after July 23, 1984. Storage vessels with a capacity greater than or equal to 151 cubic meters (m^3) storing a liquid with a maximum true vapor pressure, excluding water, less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa are exempt from the requirements of this rule.

The tanks at the Tabler Station facility meet the exemption requirements of this rule. Therefore, the Tabler Station facility is exempt from NSPS Kb.

NSPS IIII (4I) – Stationary Compression Ignition Internal Combustion Engines

This subpart is applicable to owners and operators of stationary compression ignition internal combustion engines (CI ICE). There will be two additional CI ICE (backup/standby generator) installed as part of this phase. The backup/standby generator engines are subject to the emission standards in Table 1 of the subpart. The engines are required to use low-sulfur diesel. The backup/standby generator engines will only be used under maintenance conditions or during a loss of power to the site; they will have a limit of 100 hours per year for operation (each) in non-emergency situations. The hours the backup/standby generator engines are operated will be tracked with a non-resettable hour meter. Recordkeeping and monitoring requirements may apply to the backup/standby generator engines.

NSPS JJJJ (4J) – Stationary Spark Ignition Internal Combustion Engines

This subpart is applicable to owners and operators of stationary spark ignition internal combustion engines (SI ICE). There will be one SI ICE onsite for backup/standby use installed as part of this phase. The backup/standby generator engine is subject to the emission standards in 40 CFR 1054. The backup/standby generator engine will only be used under maintenance conditions or during a loss of power to the site; it will have a limit of 100 hours per year for operation in non-emergency situations. The hours the backup/standby generator engine is operated will be tracked with a non-resettable hour meter. Recordkeeping and monitoring requirements may apply to the backup/standby generator engine.

Non-Applicability of All Other NSPS

NSPS are developed for particular industrial source categories. All other NSPS are categorically not applicable to the proposed change.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

National Emissions Standards for Hazardous Air Pollutants (NESHAP), federal regulations found in Title 40 Part 61 and 63 of the CFR, are emission standards for HAP. NESHAP are applicable to both major sources of HAP (facilities that exceed the major source thresholds of 10 tpy of a single HAP and 25 tpy of any combination of HAP from stationary sources) as well as non-major sources (termed "area sources"). NESHAP 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 Section 112(g)) for facilities not regulated as a specific industrial source type. The Tabler Station facility is an area source of HAP. As such, this document only addresses regulatory applicability for area sources and does not include Maximum Achievable Control Technology (MACT) standards for major sources (e.g., 40 CFR Part 63 Subpart FFFF, or the miscellaneous organic chemical NESHAP [MON]).

NESHAP ZZZZ (4Z) – Reciprocating Internal Combustion Engines

NESHAP 4Z establishes emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP.

Per 40 CFR 6590 (c)(1), new stationary RICE located at an area source may show compliance with NESHAP 4Z by being in compliance with NSPS 4I or NSPS 4J. All stationary RICE P&G are new and located at an area source of HAP emissions. Therefore, by maintaining compliance with NSPS 4I or NSPS 4J, P&G can demonstrate compliance with NESHAP 4Z.

West Virginia SIP Regulations

The proposed project at the Tabler Station facility is potentially subject to regulations contained in the West Virginia Code of State Regulations, Chapter 45 (Code of State Regulations). West Virginia regulations potentially applicable to the proposed project are discussed below.

45 CSR 4: To Prevent Objectionable Odors

45 CSR 4-2.01 specifies that:

> *No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.*

P&G takes precautions to assure compliance with this rule. Accidental or other infrequent emissions of odor are not provisions of this rule. This regulation is not federally enforceable.

45 CSR 7: To Prevent and Control Particulate Matter from Manufacturing Processes

45 CSR 7 regulates PM emissions from manufacturing processes and associated operations. 45 CSR 7-3, requires a 20% opacity limit from all process source operations. Section 45 CSR 7-4 and Table 45-7A set particulate emissions limits based on the total weight of all materials used by the facility, also known as the process weight. The different process areas at the Tabler Station facility qualify under different classifications as part of the rule. The previously permitted surfactants area is a mineral acid producing area, subject to limits in Table 45-7B. The surfactants area included with this application is an expansion which adds additional surfactant-making operations. There are no particulate emissions increases associated with the additional surfactant throughput; therefore, the process weight classification is not updated in this application. The liquid soap making areas qualify as Type 'a' facilities.[2] There are minimal particulate emissions increases associated with the liquid soap making C area; therefore, the process weight classification is not updated in this application.

45 CSR 16: Standards of Performance for New Stationary Sources

This rule adopts the standards of performance for new stationary sources set forth in 40 CFR Part 60 by reference. Potentially applicable NSPS are discussed above.

45 CSR 21: To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds

45 CSR 21 is intended to require reasonably available control technology for VOC sources in Putnam, Kanawha, Cabell, Wayne, and Wood Counties. As such, these requirements do not apply to VOC sources in Berkeley County.

[2] Per 45 CSR 7-2.39(a), "Type 'a' means any manufacturing process source operation involving glass melting, calcination, or **physical change** except as noted in type 'c' below." (**emphasis** added)

45 CSR 27: To Prevent and Control the Emissions of Toxic Air Pollutants

West Virginia regulates the emissions of toxic air pollutant emissions through 45 CSR 27. A facility that discharges, or may discharge, a toxic pollutant into the open atmosphere in quantities greater than those delineated in Table A of this rule is required to employ Best Available Technology (BAT) on all chemical processing equipment emitting the pollutant.

The equipment at the Tabler Station facility discharges trace amounts of toxic pollutants during natural gas and diesel combustion. However, the Tabler Station facility does not discharge any of the toxic pollutants in a quantity greater than listed in Table A, as shown in Table D-1. As such, this regulation does not apply to the project at the Tabler Station facility.

Table D-1. Evaluation of Toxic Air Pollutants

Pollutant[1]	45 CSR 27 Emission Rate Threshold[1] (lb/yr)	Tabler Station Emission Rate (lb/yr)	Is 45 CSR 27 Applicable?
Acrylonitrile	500	0	No
Allyl Chloride	10,000	0	No
Benzene	1,000	<15	No
1, 3 Butadiene	500	<1	No
Carbon Tetrachloride	1,000	<1	No
Chloroform	1,000	<10	No
Ethylene Dichloride	1,000	0	No
Ethylene Oxide	500	0	No
Formaldehyde	1,000	<160	No
Methylene Chloride	5,000	<1	No
Propylene Oxide	5,000	0	No
Trichloroethylene	10,000	0	No
Vinyl Chloride	1,000	<1	No
Vinylidene Chloride	2,000	0	No

[1] From 40 CSR 27, Table A

45 CSR 31 Confidential Information

45 CSR 31 describes the requirements for claiming confidential information, and the procedures for determinations of confidentiality. Confidentiality may be claimed if the Director determines that the facility meets the criteria detailed in 45 CSR 31-4.1 (a-e). P&G has determined that the Tabler Station R-13 application does not meet the criteria for confidential submittal.

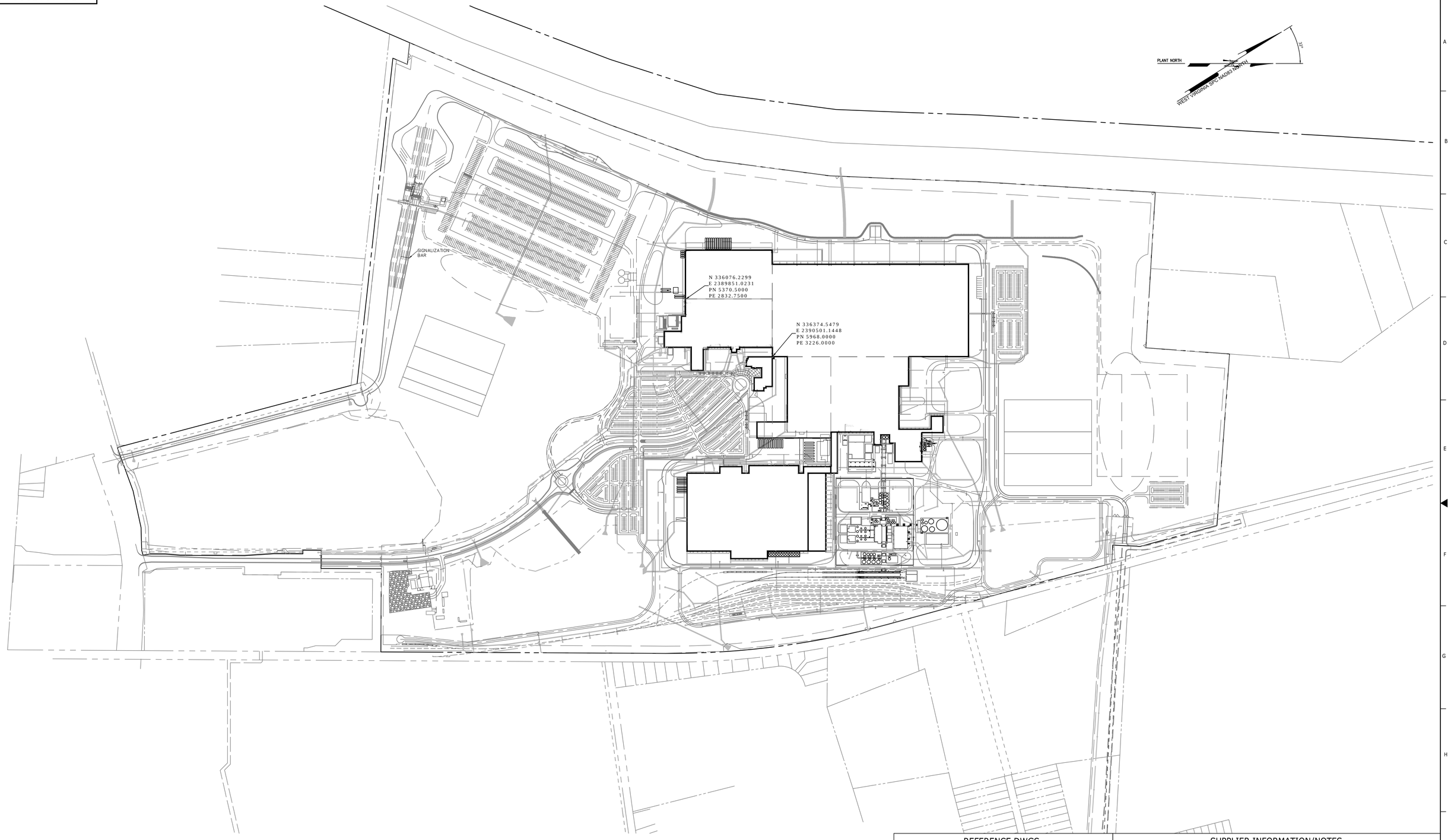
45 CSR 34: Emission Standards for Hazardous Air Pollutants

This rule adopts the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) by reference. Potentially applicable NESHAP are discussed above.

ATTACHMENT E

Plot Plan

PG-4617088



DISTRIBUTED ON 15 JUNE 2017

REFERENCE DWGS	SUPPLIER INFORMATION/NOTES
	FLUOR.

Project No. A7PGTL

THIS DRAWING NOT COMPLETE UNLESS NUMBER IN REV. BLOCKS MATCHES DRAWING ISSUE NUMBER AND BOTH SAFETY, ENVIRONMENTAL, QA/MICRO CHECK BLOCKS ARE SIGNED BY THE RESPONSIBLE P&G APPROVERS.

PROCESS SAFETY STUDY	DWG. REV.#	ENVIRONMENTAL	AIR, DUST AND NOISE	LIQUID & SOLID WASTE	DWG. REV.#	QA/MICRO	DWG. REV.#
( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE MM/DD/YYYY		APPROVER/DATE MM/DD/YYYY		MM/DD/YYYY		APPROVER/DATE MM/DD/YYYY	

RESERVED FOR P.E. STAMP

Revision History

No	Description	Name/Date
E	ISSUED FOR INFORMATION	DEJ 05-24-2016
F	ISSUED FOR INFORMATION	DEJ 08-30-2016
G	ISSUED FOR INFORMATION	DEJ 11-29-16
D	12M SHIFT WEST & PROTECTED PROGRAM SCOPE	DEJ 11-12-15

Drawn By:
Date Drawn: 09/25/2015
Checked By:
Date Checked:

Procter&Gamble

PROJECT INDEPENDENCE

SITE INTEGRATION DRAWING

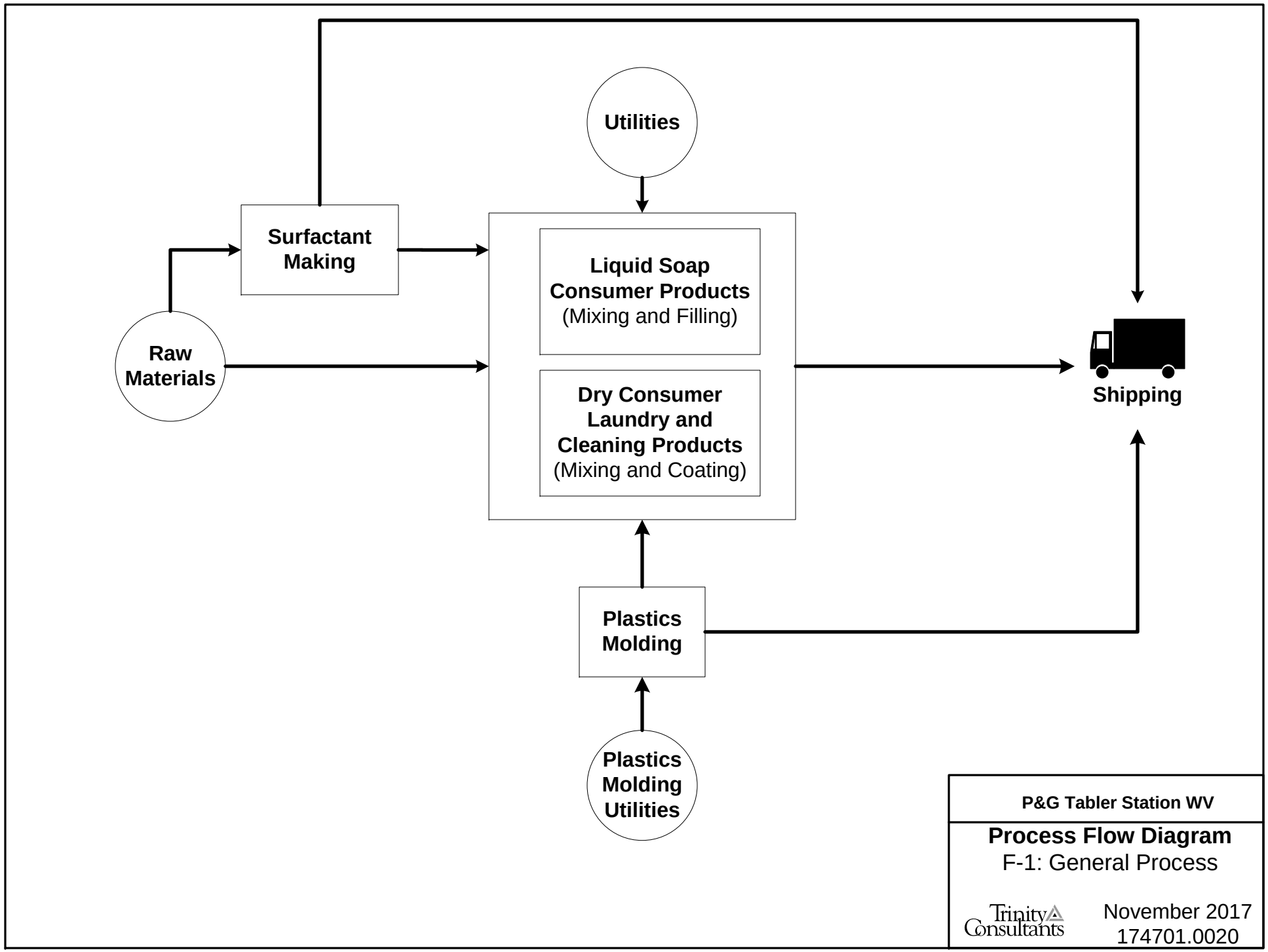
FSWV-001-900

SCALE: 1" = 250'
Supercedes:
Sheet 01 of 01

Drawing Number PG-4617088-RG

ATTACHMENT F

Detailed Process Flow Diagram

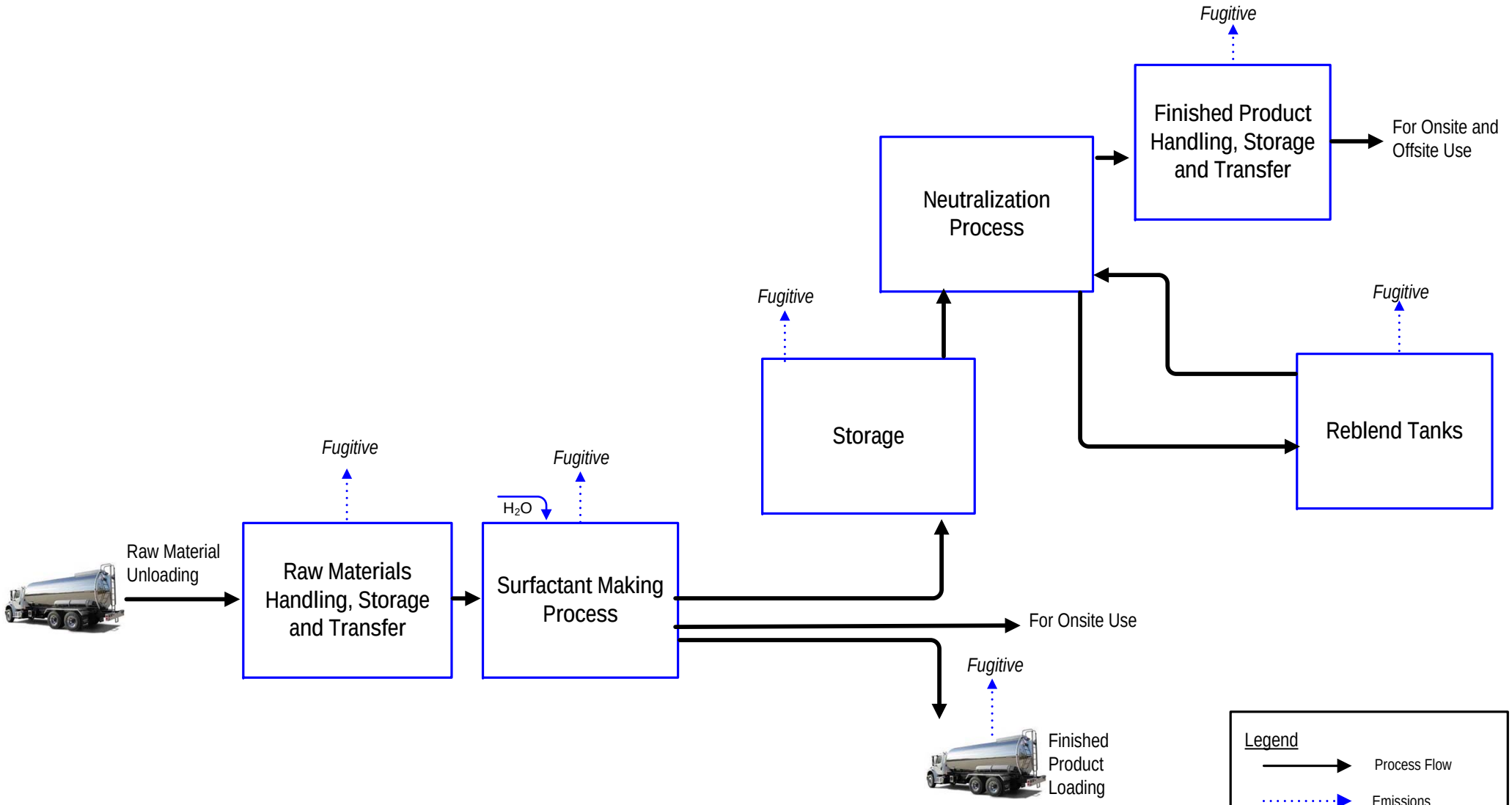


P&G Tabler Station WV

Process Flow Diagram
F-1: General Process

Trinity Consultants

November 2017
174701.0020

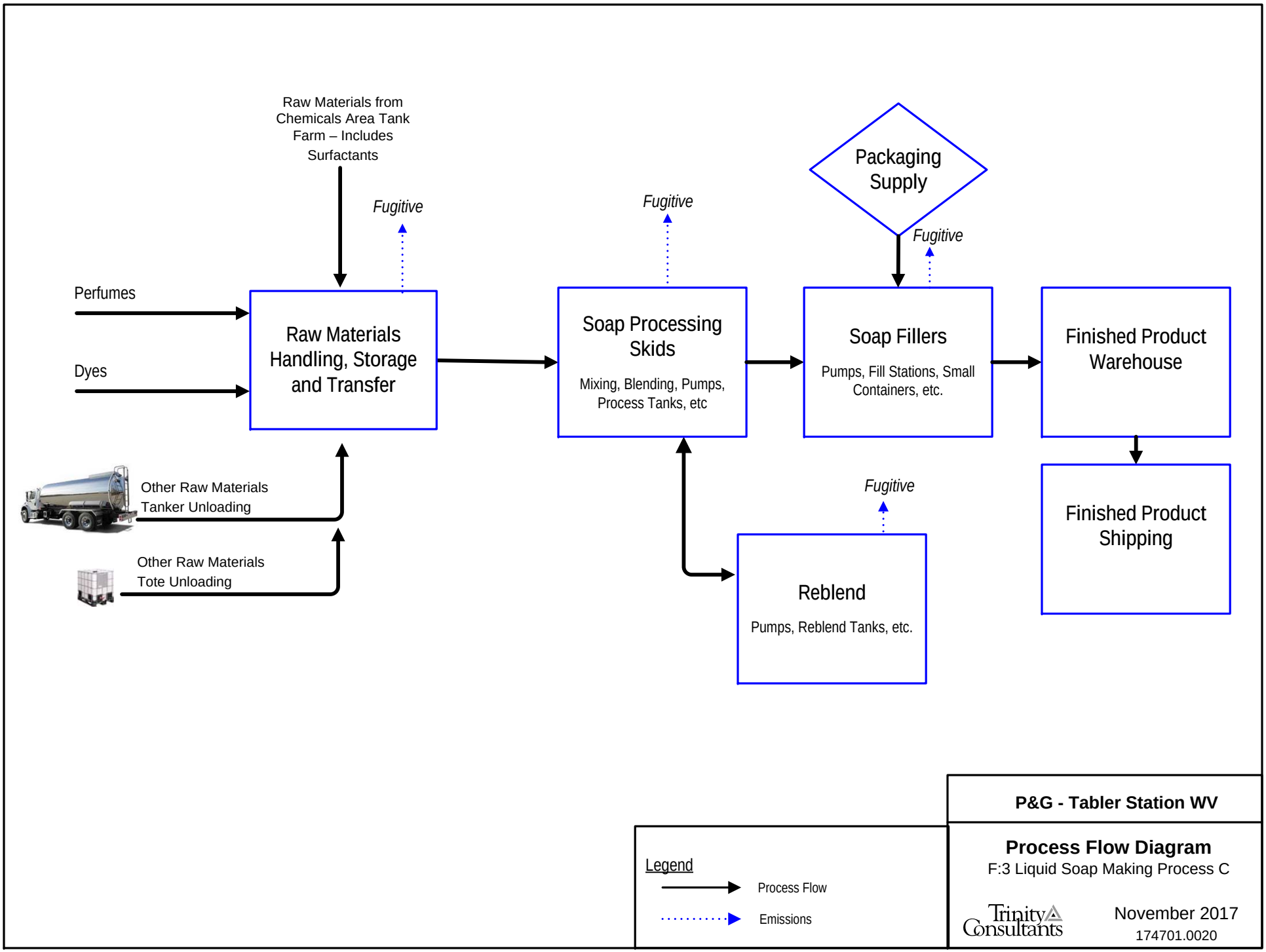


PG Tabler Station WV

Process Flow Diagram
F-2: Surfactant B Process

Trinity Consultants

November 2017
174701.0020


Raw Materials from Chemicals Area Tank Farm – Includes Surfactants
Fugitive
Perfumes
Dyes
Raw Materials Handling, Storage and Transfer
Other Raw Materials Tanker Unloading
Other Raw Materials Tote Unloading
Fugitive
Soap Processing Skids
Mixing, Blending, Pumps, Process Tanks, etc
Packaging Supply
Fugitive
Soap Fillers
Pumps, Fill Stations, Small Containers, etc.
Finished Product Warehouse
Finished Product Shipping
Fugitive
Reblend
Pumps, Reblend Tanks, etc.
Legend
Process Flow
Emissions
P&G - Tabler Station WV
Process Flow Diagram
F:3 Liquid Soap Making Process C
Trinity Consultants
November 2017
174701.0020

ATTACHMENT G

Process Description

ATTACHMENT G – PROCESS DESCRIPTION

As part of this project, P&G proposes to install equipment in the following different business areas:

- Surfactant Manufacturing;
- Liquid Soap Making C; and
- Utilities.

Each of these business areas are discussed in greater detail in the report.

ATTACHMENT H

Materials Safety Data Sheets

Tabler Station Site Material Listing

Material Name
Process Areas
18MM Silicone
Acticide M20
Acusol OP 301 Opacifier
Alkyldimethylamines
ALS
AM Triquat
Amine Oxide
Amodimethicone (10TAS)
AXS
Aziridine
Beauty Care (Hair Care, Body Wash) Perfumes (multiple)
Beauty Care Finished Products (multiple)
Benzyl Alcohol
Betaine
Betzdearborn IEC2
Blue Liquid Color
C24 AE1 Alcohol Ethoxylate
C24 AE3 Alcohol Ethoxylate
Caustic, 50%
Caustic, 20%
Cetyl Alcohol
CO1214
Corrshield MD4103
Cutting Oil Thread Cutting Lubricant
DADMAC
DC-1865
DC-1872
DCMC
Deception 5 GNF - Perfume
Diethylene glycol (heat transfer fluid)
Dimethicone (10,000 cSt)
Dimethicone (15-85)
Dissolvine GL-47-S
DM5500 Polydimethyl Siloxane Emulsion
EDDS
Ejector Pin
Ethanol, denatured
Fatty Acid
Flogard POT6183
Food Grade Silicone
Formolene HB5502F
Formolene High Density Polyethylene-Hexane Copolymer
Gengard GN7112
Glycerin
Glydant

Tabler Station Site Material Listing

Material Name
HOD Base
Hydrochloric Acid
HydroForce Foaming Citrus All Purpose Cleaner
Hydrogen Peroxide (50%)
IMS Paintable Mist
Inhibitor AZ8101
ISIS M4 2012C
Kathon
KRA
Laureth-4
L-Glutamic Acid
Linole
Marlex KN226 Polyethylene
Marlex KN226 Polyethylene
Miramod - Bulk Perfume
MIT M20
Nalco 1720
Nalco 1820
Nalco 3DT 265
Nalco 7320
Nalco 7330
Nalco Nexguard 22310
Neodol 91-8
Neolone
Panthenol
Pantyl
PCMX
Perfume Micro Capsules
Perfumes (multiple)
Petrolatum
Phenoxyethanol
Polyethylene Resin
Polypropylene Homopolymer
Polyquaterium - 10
PPG2000
PQAS
Precipated Acid Mix (PAM)
Propylene Glycol (heat transfer fluid)
Red Liquid Color
S2TS Steol TD 402-65
SAPDMA
Simple Green All-Purpose Cleaner
Slide Mold Cleaner Plus Degreaser 4
Slide Mold Shield Cylinder
Slide Resin Remover Aerosol
Slide Super Grease

Tabler Station Site Material Listing

Material Name
Sodium Bicarbonate (aqueous solution)
Sodium Chloride 25% Solution
Sodium Chloride Powder
Sodium Chloride Saturated Solution
Sodium Chloride Solution
Sodium Hypochlorite Solution
Sodium Laureth Sulfate SLE1S
Sodium Laureth Sulfate SLE3S
Sodium Lauryl Sulfate SLS
Spectrus NX 1100
Stearyl Alcohol
Step Two Rust Stopper
Sulfuric Acid
Super Grease Aerosol
Surfactant Paste
SXS
TDA-3
Ultimate UV 390-1
Ultra Low Sulfur Diesel Fuel
White Silver-3
Yellow Dye
Lab Chemicals (De minimis)
0.01N Hydrochloric Acid
0.01N Iodine Solution
0.01N Sodium Hydroxide
0.01N Sodium Thiosulfate
0.025M Sodium Sulfate
0.04N Iodine Solution
0.05N Sodium Hydroxide
0.1N EDTA Disodium Salt
0.1N Hydrochloric Acid
0.1N Hydrochloric Acid in IPA
0.1N Iodine Solution
0.1N Perchloric Acid in Acetic Acid
0.1N Silver Nitrate
0.1N Sodium Hydroxide
0.1N Sodium Thiosulfate
0.1N Sulfuric Acid
0.25N Sodium Hydroxide
0.2M Hydrochloric Acid
0.5N Hydrochloric Acid
0.5N Potassium Hydroxide
1% Hydrochloric Acid
1,3 -dioxane
1,3-Butanediol (butylene glycol)

Tabler Station Site Material Listing

Material Name
1,4-dioxane
10% Sodium Hydroxide
1000mg/L Fe standard
1000ppm Iron in dilute acid
1-Chlorodocosane (C22-Cl)
1-Chloroeicosane (C20-Cl)
1-Chlorohexadecane
1-Chlorooctadecane
1-Docosanol
1-Dodecanol
1-Eicosanol
1-Hexadecanol
1N Hydrochloric Acid
1N Sodium Hydroxide
1N Sulfuric Acid
1-Nonadecanol
1-Octadecanol
1-Pentadecanol
1-Tetracosanol
1-Tetradecanol
25% Active AE3S
28-30% Strong Ammonia Solution
2-Phenoxyethanol
37% Formaldehyde Solution
50% Sodium Hydroxide
6mL x 1000mg SAX SPE cartridge
7.5% Hydrogen Peroxide
90% LA-7 AE
Absolute Ethanol
Acc-Fluor Reagent Kit
Acetic Acid
Acetic Acid (HPLC Grade)
Acetone
Acetonitrile (HPLC Grade)
Acetylacetone
Acetylene Gas
AE3S
Amberlite MB-1 Ion Exchange Resin
Ammonium Acetate
Ammonium Chloride
Ammonium Hydroxide
Ammonium Xylene Sulphonate
Aquamerck Formaldehyde Test Kit (0.1ppm)
Benzoic Acid
Benzyl Alcohol
Benzylaldehyde

Tabler Station Site Material Listing

Material Name
BF3/Methanol
Bromocresol Green Indicator
Bromothymol Blue Indicator
Butan-2-ol
Butyl Alcohol
Butyl Paraben
Caffeine, anhydrous
Calcium Chloride Dihydate
Calibration Std
Canon Oil Standard N140
Canon Oil Standard N250
Chloroform
Chromotropic Acid
Citric Acid Monohydrate
Composite 5 Volumetric
Coulomat AG
D6 Cylcomethicone
Decamethylpentasiloxane (D5 Cyclomethicone)
Decanoic Acid
Diethylene Glycol
Dimidium Bromide
Diphenyloxide
Dipropylene Glycol
Dishwashing Detergent
Disodium Dihydrogen Ethylene Diamine Tetra Acetate Dihydrate
Disodium Hydrogen Phosphate Anhydrous
Disodium Hydrogen Phosphate Heptahydrate
Disperse Red 17 Reference Std
Disulfine Blue VN
DNPH
Dodecanol
D-Panthenol
D-Panthenyl Ethyl Ether
Dry Methanol
Eicosanoic Acid
Elaidic Acid
Electrode Reference Solution
Eriochrome Black
Erythorbic Acid
Ethoxylated Alcohol
Ethylene Glycol
Ethylene Glycol Distearate
Ferric Ammonium Sulfate
Ferric Chloride Hexahydrate
FerroVer Iron Reagent Powder Pillows
FID Check Sample

Tabler Station Site Material Listing

Material Name
Filter Paper
Finished Perfume Oil
Flavor Standard
Fluorenone
Formic Acid
Glycerin
Glycine
Heptadecanoic Acid
Hexadecanol
Hexadecyl Hexadecanoate
Hexamethyltrisiloxane (D3 Cyclomethicone)
Hexane
Hyamine 1622
Hydrochloric Acid
Hydrogen Peroxide (30%)
Hydroxylamine Hydrochloride
Iodine
IPBC Standard
Isooctane
Isopropyl Alcohol
Kathon CG/ICP II® (CG/ICP II) Standard
Lauric Acid
Laurinaldehyde
Lead Nitrate
Linoleic Acid
Merckoquant Formaldehyde Test Kit (10ppm)
Methanol
Methanol (HPLC Grade)
Methyl Isobutyl Ketone
Methyl Orange Indicator Solution
Methyl Paraben
Methyl Red Indicator
Methylene Chloride
Methylene Chloride (HPLC Grade)
Mineral Oil, Nujol
Myristic Acid
N,N-Dimethyl-n-hexadecylamine (C16 DMA)
N,N-Dimethyl-n-octadecylamine (C18 DMA)
Neolone RM
n-Heptane
Nicotinamide
Nitric Acid
Nitrous Oxide Gas
n-Pentacosane
n-Tricosane
Octamethyltetrasiloxane (D4 Cyclomethicone)

Tabler Station Site Material Listing

Material Name
Octanoic Acid
Oleic Acid
o-Phenanthroline
Palmitic Acid
Palmitoleic Acid
Paper sample cups with lids
Pentadecanol
Perfume Blotters
Perfume Material Standard
Perfume Raw Materials
Petrolatum
Petroleum Ether
pH 10 Buffer
pH 4 Buffer
pH 7 Buffer
Phenolphthalein Solution
Phosphate Spectroquant Kit
Phosphoric Acid
Phosphoric Acid (HPLC Grade)
Plastic sample cups with lids
p-Nitrophenol, indicator
Potassium Biphthalate
Potassium Bromide Powder
Potassium Chlorate
Potassium Chromate Indicator
Potassium Dihydrogen Phosphate
Potassium hexacyanoferrate (II)
Potassium hexacyanoferrate (III)
Potassium Hydrogen Phthalate
Potassium Hydroxide (pellets)
Potassium Iodide
Propyl Paraben
Salicyl Alcohol
Silicone anti-foam
Sodium Chloride
Sodium Dihydrogen Phosphate Monohydrate
Sodium Lauryl Sulfate
Sodium Sulfate
Sodium Thiosulfate
SP Brand MICRO
Squalane
Starch Indicator
Stearic Acid
Sulfuric Acid
Sulfuric Acid (<0.1ppm Chloride)
Sylon BFT

Tabler Station Site Material Listing

Material Name
Target Appearance Std
Target Odor Standards
Tetradecanol
Tetrahydrofuran
Toluene
Tridecanoic Acid
Tridecanol
Trisodium Citrate Dihydrate
Triton X-100
Trizma Base
Water Standard

ATTACHMENT I

Emission Units Table

Attachment I
Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and date of Change	Control Device[4]
19S	19E	Surfactant Bulk Liquid Transfer	2018	4,669,701 gal/yr	Modification	--
~~206S~~	~~175E~~	~~Backup/Standby Power Generator~~	~~2017~~	~~350 kW~~	~~Removed~~	~~--~~
~~207S~~	~~176E~~	~~Backup/Standby Power Generator~~	~~2017~~	~~350 kW~~	~~Removed~~	~~--~~
257S	226E	Printing Ink	2018	31,255 lb/year	Modification	--
265S	235E	Surfactant Tank	2018	120,762 gal	New	--
266S	236E	Surfactant Tank	2018	40,109 gal	New	--
267S	237E	Surfactant Tank	2018	120,762 gal	New	--
268S	238E	Mixing Tank	2018	32,315,255 gal/yr	New	--
269S	239E	Surfactant Truck and Rail Loadout	2018	7,968,239 gal/yr	New	--
270S	240E	Liquid Soap C Tank	2018	16,138 gal	New	--
271S	241E	Liquid Soap C Tank	2018	16,138 gal	New	--
272S	242E	Liquid Soap C Tank	2018	16,138 gal	New	--
273S	243E	Liquid Soap C Tank	2018	16,138 gal	New	--
274S	244E	Liquid Soap C Tank	2018	396 gal	New	--
275S	245E	Liquid Soap C Tank	2018	549 gal	New	--
276S	246E	Liquid Soap C Tank	2018	549 gal	New	--
277S	247E	Liquid Soap C - Pack and Cap	2018	130,000,000 gal/yr	New	--
278S	248E	Liquid Soap C - Bulk Truck Loadout	2018	2,000,000 gal/yr	New	--
279S	249E	Dry Raw Material Loadout	2018	31,867,159 lb/yr	New	--
280S	250E	Backup/Standby Power Generators	2018	200 kW	New	--
281S	251E	Backup/Standby Power Generators	2018	600 kW	New	--
282S	252E	Backup/Standby Power Generators	2018	200 kW	New	--
283S	253E	Cooling Tower	2018	17 Mgal/hr	New	--

1) For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation
2) For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
3) New, modification, removal
4) For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J

Emission Points Data Summary Sheet

Attachment J

EMISSION POINTS SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type[1]	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (Chemical Processes only)		All Regulated Pollutants - Chemical Name/CAS3 (Speciate VOCs and HAPS)	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used [6]	Emission Concentration[7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
19E	Upward Vertical Stack	N/A	Surfactant Bulk Liquid Transfer	N/A	N/A	N/A	N/A	VOC	3.5E-03	1.6E-02	3.5E-03	1.6E-02	Gas	O - AP-42	
								H_2SO_4	2.8E-05	1.2E-04	2.8E-05	1.2E-04			
								$PM_{10}/PM_{2.5}$	2.8E-05	1.2E-04	2.8E-05	1.2E-04			
233E - 234E and 250E - 252E	Upward Vertical Stack	N/A	Backup/Standby Power Generator	N/A	N/A	N/A	N/A	NO_X	15.0	3.7	15.0	3.7	Gas	O - Vendor	
								CO	4.7	1.18	4.7	1.18			
								SO_2	5.5E-03	1.4E-03	5.55E-03	1.4E-03			
								VOC	0.90	2.2E-01	0.90	2.2E-01			
								PM	2.7E-01	6.7E-02	2.67E-01	6.7E-02			
								PM_{10}	2.4E-01	5.9E-02	2.36E-01	5.9E-02			
								$PM_{2.5}$	2.4E-01	5.9E-02	2.36E-01	5.9E-02			
								HAP	8.9E-02	2.2E-02	8.92E-02	2.2E-02			
226E	Fugitive	N/A	Printing Ink	N/A	N/A	N/A	N/A	VOC	1.35E-01	5.90E-01	1.3E-01	5.90E-01	Gas	EE	
								HAP	1.31E-01	5.73E-01	1.3E-01	5.73E-01			
235E - 238E	Upward Vertical Stack	N/A	Surfactant Tank	N/A	N/A	N/A	N/A	VOC	2.64E-02	1.16E-01	2.6E-02	1.16E-01	Gas	O - EPA Tanks	
239E	Upward Vertical Stack	N/A	Surfactant Truck and Rail Loadout	N/A	N/A	N/A	N/A	VOC	8.90E-03	3.90E-02	8.9E-03	3.90E-02	Gas	O - AP-42	
240E - 246E	Upward Vertical Stack	N/A	Liquid Soap C Tank	N/A	N/A	N/A	N/A	VOC	6.34E-02	2.78E-01	6.3E-02	2.78E-01	Gas	O - EPA Tanks	
247E	Upward Vertical Stack	N/A	Liquid Soap C - Pack and Cap	N/A	N/A	N/A	N/A	VOC	3.99E-01	1.75E+00	4.0E-01	1.75E+00	Gas	O - AP-42	
								HAP	4.65E-04	2.04E-03	4.6E-04	2.04E-03			
248E	Upward Vertical Stack	N/A	Liquid Soap C - Bulk Truck Loadout	N/A	N/A	N/A	N/A	VOC	1.49E-01	6.51E-01	1.5E-01	6.51E-01	Gas	O - AP-42	
								HAP	1.12E-02	4.92E-02	1.1E-02	4.92E-02			
249E	Upward Vertical Stack	N/A	Dry Raw Material Loadout	N/A	N/A	N/A	N/A	PM	2.36E-03	1.03E-02	2.4E-03	1.03E-02	Solid	O - AP-42	
								PM_{10}	2.36E-03	1.03E-02	2.36E-03	1.03E-02			
								$PM_{2.5}$	2.36E-03	1.03E-02	2.36E-03	1.03E-02			
253E	Upward Vertical Stack	N/A	Cooling Tower	N/A	N/A	N/A	N/A	PM	1.70E-02	7.46E-02	1.7E-02	7.46E-02	Solid	O - AP-42	
								PM_{10}	8.00E-03	3.50E-02	8.0E-03	3.50E-02			
								$PM_{2.5}$	6.67E-06	2.92E-05	6.7E-06	2.92E-05			

Attachment J

EMISSION POINTS SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. (Must match Emission Units Table)	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (^{o}f)	Volumetric Flow[1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height[2] *(Release height of emissions above ground level)*	Northing	Easting
19E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
233E - 234E and 250E - 252E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
226E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
235E - 238E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
239E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
240E - 246E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
247E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
248E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
249E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
253E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ATTACHMENT K

Fugitive Emissions Data Summary Sheet

Attachment K			
FUGITIVE EMISSIONS DATA SUMMARY SHEET			
Question		**YES/NO**	**if YES:**
1	Will there be haul road activities?	No	Complete **haul road emissions unit data sheet**
2	Will there be storage piles?	No	Complete **Table 1 of nonmetallic minerals processing emissions unit data sheet**
3	Will there be liquid loading/unloading operations?	Yes	Complete **bulk liquid transfer operations emissions unit data sheet**
4	Will there be emissions of air pollutants from wastewater treatment evaporation?	No	Complete **general emissions unit data sheet**
5	Will there be equipment leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)?	No	Complete **leak source data sheet** section of the **chemical processes emissions unit data sheet**
6	Will there be General Clean-up VOC Operations?	No	Complete the **general emissions unit data sheet**
7	Will there be any other activities that generate fugitive emissions?	Yes	Complete the **general emissions unit data sheet** or most appropriate form

Attachment K						
FUGITIVE EMISSIONS DATA SUMMARY SHEET						
FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS	Maximum Potential Uncontrolled Emissions		Maximum Potential Controlled Emissions		Est. Method Used
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions	NA	NA	NA	NA	NA	NA
Paved Haul Roads	NA	NA	NA	NA	NA	NA
Unpaved Haul Roads	NA	NA	NA	NA	NA	NA
Storage Pile Emissions	NA	NA	NA	NA	NA	NA
Loading/Unloading Operations	$PM_{10}/PM_{2.5}$	2.4E-03	1.0E-02	2.4E-03	1.0E-02	O - AP-42
	VOC	1.6E-01	7.1E-01	1.6E-01	7.1E-01	
	HAP	1.1E-02	4.9E-02	1.1E-02	4.9E-02	
	H_2SO_4	2.8E-05	1.2E-04	2.8E-05	1.2E-04	
Wastewater Treatment Evaporation & Operations	NA	NA	NA	NA	NA	NA
Equipment Leaks	NA	NA	NA	NA	NA	NA
General Clean-up VOC Emissions	NA	NA	NA	NA	NA	NA
Ink Printers	VOC	1.35E-01	5.90E-01	1.35E-01	5.90E-01	EE - Engineering Estimate
	Glycol Ether	1.31E-01	5.73E-01	1.31E-01	5.73E-01	
Other	NA - Fugitive emissions from tanks are calculated in Attachment L					

ATTACHMENT L

Emission Unit Data Sheet

Attachment L

EMISSIONS UNIT DATA SHEET - STORAGE AND PROCESS TANKS

1	3	4	6	8	9A	9B	10A	13A	18	20	22A	22B	22C	27	38B	39C	39D	40	41				
Bulk Storage Area Name	**Tank Equipment Identification Number**	**Emission Point Identification Number**	**Type of Change**	**Capacity (gallons)**	**Internal Diameter (ft)**	**Internal Height (ft)**	**Max Liquid Height**	**Max Annual Throughput (gal/yr)**	**Type of Tank**	**Shell Color/Roof Color**	**Are the Tanks Heated?**	**Provide the operating temperature (F)**	**Describe how heat is provided to the tank**	**City/State for TANKS calculations**	**Max Vapor Pressure (psi)**	**Liquid Density (lb/gal)**	**Liquid Molecular Weight (lb/lb-mol)**	**Emission Control Devices**	**Material Classification**	**Annual Loss (lb/year)**	**Material Classification**	**Annual Loss (lb/year)**	**Estimation Method**
Surfactant Tanks	265S	235E	New Const.	120,762 gal	21.3	45.5	41.61	10,968,931	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	86	Steam or Hot Water	Dulles Airport, Washington DC	2.61E-03	6.93	197	N/A	VOC	63.93	N/A	N/A	EPA
Surfactant Tanks	266S	236E	New Const.	40,109 gal	13.5	37.7	37.29	9,481,192	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	90.5	Steam or Hot Water	Dulles Airport, Washington DC	3.50E-03	6.84	197	N/A	VOC	43.51	N/A	N/A	EPA
Surfactant Tanks	267S	237E	New Const.	120,762 gal	21.3	45.5	41.61	11,865,133	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	61.7	Steam or Hot Water	Dulles Airport, Washington DC	9.82E-04	6.57	197	N/A	VOC	25.89	N/A	N/A	EPA
Surfactant Tanks	268S	238E	New Const.	--	--	--	--	32,315,255	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	120	Steam or Hot Water	Dulles Airport, Washington DC	3.50E-03	6.84	197	N/A	VOC	22.42	N/A	N/A	EPA
Liquid Soap C	270S	240E	New Const.	16,138 gal	9.84	28.61	25.42	660,429	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	113	Steam or Hot Water	Dulles Airport, Washington DC	6.00E-02	8.35	138.00	N/A	VOC	24.08	N/A	N/A	EPA
Liquid Soap C	271S	241E	New Const.	16,138 gal	9.84	28.61	25.42	2,641,717	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	113	Steam or Hot Water	Dulles Airport, Washington DC	6.00E-02	8.35	138.00	N/A	VOC	37.66	N/A	N/A	EPA
Liquid Soap C	272S	242E	New Const.	16,138 gal	9.84	28.61	25.42	660,429	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	113	Steam or Hot Water	Dulles Airport, Washington DC	6.00E-02	8.35	138.00	N/A	VOC	24.08	N/A	N/A	EPA
Liquid Soap C	273S	243E	New Const.	16,138 gal	9.84	28.61	25.42	660,429	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	113	Steam or Hot Water	Dulles Airport, Washington DC	6.00E-02	8.35	138.00	N/A	VOC	24.08	N/A	N/A	EPA
Liquid Soap C	274S	244E	New Const.	396 gal	4.18	5.33	--	113,363	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	80	Steam or Hot Water	Dulles Airport, Washington DC	3.29E-01	8.60	100.00	N/A	VOC	5.34	N/A	N/A	EPA
Liquid Soap C	275S	245E	New Const.	549 gal	4.18	5.33	--	132,086	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	86	Steam or Hot Water	Dulles Airport, Washington DC	3.29E-01	8.35	100.00	N/A	VOC	5.81	N/A	N/A	EPA
Liquid Soap C	276S	246E	New Const.	549 gal	4.18	5.33	--	132,086	Vertical Fixed Roof Aboveground	Grey/Grey	Yes	86	Steam or Hot Water	Dulles Airport, Washington DC	3.29E-01	8.35	100.00	N/A	VOC	5.81	N/A	N/A	EPA

Attachment L			
EMISSIONS UNIT DATA SHEET - BULK LIQUID TRANSFER OPERATIONS			
Number:	**Question:**	**Response:**	**Notes:**
	Sheet version:	Bulk Liquid Transfer	
0	Identification Number	19S	
1	Loading Area Name	Surfactant Bulk Liquid Transfer	
2	Type of Cargo Vessels Accommodated at this Transfer Point	Rail Tank Cars and Tank Trucks	Choose: Drums, Marine Vessels, Rail Tank Cars, and Tank Trucks
7	Projected Maximum Operating Schedule	24/7/365	
8	**Bulk Liquid Data**		
	Liquid Name	PAM	
	Annual throughput (Mgal/yr)	112	
	Max. Bulk Liquid Temp (F)	69	
	True vapor pressure (psia)	1.69E-03	
	Fill type	Submerged	
	VOC Emission Rate (lb/yr)	2.6E-01	
	H_2SO_4 Emission Rate (lb/yr)	7.9E-02	
	Control Equipment	N/A	
8	**Bulk Liquid Data**		
	Liquid Name	Surfactant	
	Annual throughput (Mgal/yr)	4,488	
	Max. Bulk Liquid Temp (F)	69	
	True vapor pressure (psia)	1.50E-03	
	Fill type	Submerged	
	VOC Emission Rate (lb/yr)	30.80	
	Control Equipment	N/A	
8	**Bulk Liquid Data**		
	Liquid Name	H2SO4	
	Annual throughput (Mgal/yr)	70	
	Max. Bulk Liquid Temp (F)	69	
	True vapor pressure (psia)	1.69E-03	
	Fill type	Submerged	
	H_2SO_4 Emission Rate (lb/yr)	1.7E-01	
	Control Equipment	N/A	

Attachment L			
EMISSIONS UNIT DATA SHEET - BULK LIQUID TRANSFER OPERATIONS			
Number:	**Question:**	**Response:**	**Notes:**
	Sheet version:	Bulk Liquid Transfer	
0	Identification Number	278S	
1	Loading Area Name	Liquid Soap C Bulk Liquid Transfer	
2	Type of Cargo Vessels Accommodated at this Transfer Point	Tank Trucks	Choose: Drums, Marine Vessels, Rail Tank Cars, and Tank Trucks
7	Projected Maximum Operating Schedule	24/7/365	
8	Bulk Liquid Data		
	Liquid Name	Liquid Soap C	
	Annual throughput (Mgal/yr)	2,000	
	Max. Bulk Liquid Temp (F)	70	
	True vapor pressure (psia)	5.00E-01	
	Fill type	Submerged	
	VOC Emission Rate (lb/yr)	1,301	
	HAP Emission Rate (lb/yr)	98	
	Control Equipment	n/a	

Attachment L			
EMISSIONS UNIT DATA SHEET - BULK LIQUID TRANSFER OPERATIONS			
Number:	**Question:**	**Response:**	**Notes:**
	Sheet version:	Bulk Liquid Transfer	
0	Identification Number	269S	
1	Loading Area Name	Surfactant Truck and Rail Loadout	
2	Type of Cargo Vessels Accommodated at this Transfer Point	Rail Tank Cars and Tank Trucks	Choose: Drums, Marine Vessels, Rail Tank Cars, and Tank Trucks
7	Projected Maximum Operating Schedule	24/7/365	
8	Bulk Liquid Data		
	Liquid Name	Surfactants	
	Annual throughput (Mgal/yr)	7,968	
	Max. Bulk Liquid Temp (F)	69	
	True vapor pressure (psia)	3.50E-03	
	Fill type	Submerged	
	VOC Emission Rate (lb/yr)	78	
	HAP Emission Rate (lb/yr)	n/a	
	Control Equipment	n/a	

Attachment L			
EMISSIONS UNIT DATA SHEET - GENERAL			
Number:	**Question:**	**Response:**	**Notes:**
	Sheet version:	General	
0	Identification Number	257S	as assigned on Equipment List Form
1	Name or type and model of proposed affected source	Printing Ink	
4	Names and maximum amount of proposed process materials produced per hour	3.57 lb/hr	lb/hr (of materials that contain VOC and/or HAP)
5	Give chemical reactions, if applicable, that will be involved in the generation of air pollutants	N/A	
7	Projected operating schedule	24/7/365	
8	Pollutant	VOC	
	Emission Rate (lb/hr)	1.35E-01	
	Pollutant	HAP	
	Emission Rate (lb/hr)	1.3E-01	

Attachment L			
EMISSIONS UNIT DATA SHEET - GENERAL			
Number:	**Question:**	**Response:**	**Notes:**
	Sheet version:	General	
0	Identification Number	277S	as assigned on Equipment List Form
1	Name or type and model of proposed affected source	Liquid Soap C - Pack and Cap	
4	Names and maximum amount of proposed process materials produced per hour	14,840	gal/hour of finished product
5	Give chemical reactions, if applicable, that will be involved in the generation of air pollutants	N/A	
7	Projected operating schedule	24/7/365	
8	Pollutant	VOC	
	Emission Rate (lb/hr)	4.0E-01	
	Pollutant	HAP	
	Emission Rate (lb/hr)	4.6E-04	

ATTACHMENT N

Supporting Emission Calculations

Table N-0a. Emissions Summary

Business Unit/Process	Potential to Emit (tpy)								
	PM	PM_{10}	$PM_{2.5}$	VOC	HAPs	NO_x	CO	SO_2	H_2SO_4
Chemicals	**21.7**	**21.7**	**21.7**	**5.7**	**9.2E-02**	**4.7**	**2.9E-01**	**1.4**	**17.6**
Tanks	--	--	--	1.54	9.1E-02	--	--	--	1.5E-03
Loading	--	--	1.22E-04	5.45E-02	--	--	--	--	1.2E-04
SO_2 Scrubber	21.7	21.7	21.7	4.1	1.1E-03	4.7	2.9E-01	1.4	17.6
Soap Making A & B	**20.0**	**20.0**	**20.0**	**43.9**	**3.1E-02**	**1.1**	**5.8**	**6.2E-03**	**0.0**
Tanks	--	--	--	2.5	3.1E-02	--	--	--	--
RTO	6.5E-02	6.5E-02	6.5E-02	8.0	5.2E-06	1.1	5.8	6.2E-03	--
Dust Control	19.97	20.0	20.0	33.4	--	--	--	--	--
Packing/Filling	--	--	--	1.11E-03	--	--	--	--	--
Soap Making C	**1.03E-02**	**1.03E-02**	**1.03E-02**	**2.95**	**5.12E-02**	**0.00**	**0.00**	**0.00**	**0.00E+00**
Tanks	1.03E-02	1.03E-02	1.03E-02	0.55	--	--	--	--	--
Packing/Filling	--	--	--	1.75	2.04E-03	--	--	--	--
Truck Loading	--	--	--	0.65	4.92E-02	--	--	--	--
Dry Consumer Products A	**16.7**	**16.7**	**16.7**	**9.7**	**5.3E-03**	**0.0**	**0.0**	**0.0**	**0.0**
Tanks	--	--	--	1.1	5.3E-03	--	--	--	--
Converting	16.7	16.7	16.7	--	--	--	--	--	--
Additive	--	--	--	8.7	--	--	--	--	--
Utilities	**9.8**	**8.6**	**5.8**	**16.2**	**1.5**	**58.4**	**33.5**	**4.6E-01**	**5.0E-03**
Boilers	3.1	5.1	5.1	2.46	1.27	49.54	25.33	4.1E-01	4.5E-03
Engines	1.1E-01	1.0E-01	1.0E-01	2.69E-01	3.1E-02	4.89	1.53	2.0E-03	--
Cooling Towers	5.9	2.8	2.32E-03	--	--	--	--	--	--
Heaters	6.0E-01	6.0E-01	6.0E-01	4.3E-01	1.5E-01	3.9	6.6	4.7E-02	5.1E-04
Fuel Tanks	--	--	--	2.3E-03	--	--	--	--	--
Water Treatment Chemicals	--	--	--	13.0	4.0E-03	--	--	--	--
Auxiliary Activities	**10.67**	**6.29**	**4.79**	**10.28**	**7.19E-01**	**3.65**	**6.14**	**4.4E-02**	**4.7E-04**
Glue Usage	--	--	--	2.07E-01	6.90E-03	--	--	--	--
Printing	--	--	--	5.90E-01	5.73E-01	--	--	--	--
Paved Roads	4.25	8.50E-01	2.09E-01	--	--	--	--	--	--
Plastics Molding	6.42	5.44	4.58	9.49	1.4E-01	3.65	6.14	4.4E-02	4.7E-04
De Minimis Sources[1]	**--**	**--**	**--**	**1.00**	**--**	**--**	**--**	**--**	**--**
Total	**78.86**	**73.34**	**69.05**	**89.72**	**2.35**	**67.75**	**45.71**	**1.92**	**17.59**

1. De Minimis sources category assigned to "low VOC tanks", which have an emission rate of 0.005 tpy VOC or less.

Table N-0b. HAP - Emissions Summary

HAP Emissions	Potential to Emit												
	Hexane	Ethylene Oxide	Formaldehyde	Vinyl Acetate	1,4 Dioxane	Hydrogen Chloride	Acetophenone	Propylene	Chloroform	Lead	Glycol Ether	Benzene	Other Combustion HAP[1]
Total (tpy)	1.48E+00	4.75E-02	7.42E-02	6.90E-03	5.27E-02	1.85E-02	8.24E-05	1.15E-02	4.00E-03	4.15E-04	6.33E-01	6.47E-03	2.01E-02
Total (lb/yr)	2,954	95	148	14	105	37	0.16	23	8.00	0.83	1,265	13	40

1. Includes: 2-methylnaphthalene, 3-methylchloranthrene, 7,12-Dimethylbenz(a)anthracene, acetaldehyde, acenaphthene, acenaphthylene, acrolein, anthracene, benz(a)anthracene, benzo(a)pyrene, bezo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dichlorobenzene, ethylbenzene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, OCDD, PAH, phenanathrene, pyrene, toluene, 1,1,1-Trichloroethane, o-xylene, xylenes, arsenic, antimony, beryllium, cadmium, chloride, chromium, chromium VI, cobalt, fluoride, manganese, mercury, nickel, phosphorus, selenium.

Table N-2. Surfactant Making - Loading Emissions

EU ID	Description	Amount Loaded (gal/vehicle)	Frequency Loaded (vehicles/yr)	Vapor Pressure Group	Vapor Pressure (psia)	Molecular Weight (lb/lb-mol)	Temp. R	Saturation Factor	VOC[1] (wt%)	H_2SO_4 wt%	Emission Factor ($lb/10^3$ gal)[2]		Hourly Emissions (lb/hr)				Annual Emissions (tpy)			
											VOC	H_2SO_4	VOC	HAP	$PM_{10}/PM_{2.5}$	H_2SO_4	VOC	HAP	$PM_{10}/PM_{2.5}$	H_2SO_4
19	PAM Loadout	11,600	10	n/a	1.69E-03	98	528	0.6	100%	30%	2.35E-03	7.06E-04	3.00E-05	--	9.00E-06	9.00E-06	1.31E-04	--	3.94E-05	3.94E-05
	Surfactant Final Product Loadout - Truck	11,600	0	1	1.50E-03	323	528	0.6	100%	0%	6.86E-03	--	0.00E+00	--	--	--	0.00E+00	--	--	--
	Surfactant Final Product Loadout - Rail	21,134	212		1.50E-03	323	528	0.6	100%	0%	6.86E-03	--	3.52E-03	--	--	--	1.54E-02	--	--	--
	Sulfuric Acid Loadout	11,600	6	n/a	1.69E-03	98	528	0.6	0%	100%	--	2.35E-03	--	--	1.89E-05	1.89E-05	--	--	8.28E-05	8.28E-05
																Total	1.6E-02		1.2E-04	1.2E-04

1. Conservatively assumed that VOC content of PAM and surfactant finished product is 100%.
2. Loading loss emission factors calculated per AP-42, Chapter 5.2 (*Transportation and Marketing of Petroleum Liquids*), Equation 1. Assumes submerged filling.

Table N-46. Surfactant Making - Storage and Process Tank Emissions

EU ID	Throughput[1] (gal/yr)	Vapor Pressure[1] (psia)	Molecular Weight[1] (lb/lb-mol)	Bulk Liquid Temperature[1, 2] (°F)	Liquid Density[1] (lb/gal)	Tank Capacity[1] (gal)	VOC Potential to Emit[3]	
							(lb/hr)	(tpy)
265	10,968,931	2.61E-03	197	86	6.93	120,762	7.30E-03	3.20E-02
266	9,481,192	3.50E-03	197	90.5	6.84	40,109	4.97E-03	2.18E-02
267	11,865,133	9.82E-04	197	61.7	6.57	120,762	2.96E-03	1.29E-02
Soap Tanks[4]							4.64E-02	2.03E-01
Total							***6.16E-02***	***2.70E-01***

1. Chemical data and storage tank parameters per correspondence with Justin Gorman (Procter and Gamble) on August 4, 2015.
2. Per correspondence with Justin Gorman (Procter and Gamble) on June 10, 2015, all storage tanks will be temperature controlled (heated and insulated).

3. Emissions calculated per AP-42, Section 7.1 (*Organic Liquid Storage Tanks*) and Trinity calculations spreadsheets. Specifically, equations contained in Section 7.1.3.1 (*Total Losses from Fixed Roof Tanks*) are utilized.
4. Total VOC emissions include emissions from categorically exempt soap tanks (exempt per 45CSR13, Table45-13B, Item 49) for site-wide total for PSD applicability.

Table N-47. Surfactant Making - Mixing Tank - Mixing Emissions [1]

EU ID	Description	Operating Temperature (°F)	Vapor Pressure (psia)	Molecular Weight (lb/lb-mol)	Throughput (gal/yr)	K_N [2] (turnover factor)	VOC Emissions [3,4] (lb/hr)	VOC Emissions [3,4] (tpy)
268	Mix Tank	120	3.50E-03	197	32,315,255	0.17	1.12E-02	4.91E-02

1. The VOC content of the surfactant mixture is conservatively assumed to be 100%.
2. K_N calculated assuming infinitely many turnovers, N, per year (i.e., continuous process).
3 . Emissions calculated per AP-42, Chapter 7.1 (*Organic Liquid Storage Tanks*), Equation 1-29.
4. Emissions estimates are based on working loss emission estimation methods accounting for displacement of vapor (containing VOC). A 10% safety factor is added to conservatively account for the effect of mixing on emissions.

Table N-48. Surfactant Making - Loading Emissions

EU ID	Description	Amount Loaded (gal/truck)	Frequency Loaded (trucks/yr)	Vapor Pressure (psia)	Molecular Weight (lb/lb-mol)	Temp. R	Saturation Factor[1]	VOC[2] (wt%)	Emission Factor[3] (lb/10[3] gal) VOC	Hourly Emissions (lb/hr) VOC	Annual Emissions (tpy) VOC
269	Truck Loadout	11,600	339	3.50E-03	197	528	0.6	100%	9.78E-03	4.39E-03	1.92E-02
	Rail Loadout	21,134	191	3.50E-03	197	528	0.6	100%	9.78E-03	4.51E-03	1.97E-02
										Total	3.90E-02

1. AP-42, Chapter 5.2 (Transportation and Marketing of Petroleum Liquids), Table 5.2-1.

2. Conservatively assumed that VOC content is 100%.

3. Loading loss emission factors calculated per AP-42, Chapter 5.2 (*Transportation and Marketing of Petroleum Liquids*), Equation 1. Assumes submerged filling.

Table N-49. Soap Making Business C - Storage and Process Tank Emissions

EU ID	Throughput[1] (gal/yr)	Vapor Pressure[1] (psia)	Molecular Weight[1] (lb/lb-mol)	Bulk Liquid Temperature[1] (°F)	Liquid Density[1] (lb/gal)	Tank Capacity[1] (gal)	VOC Emissions[2] (lb/hr)	VOC Emissions[2] (tpy)
270	660,429	6.00E-02	138	113	8.35	16,138	1.20E-02	5.27E-02
271	2,641,717	6.00E-02	138	113	8.35	16,138	1.88E-02	8.25E-02
272	660,429	6.00E-02	138	113	8.35	16,138	1.20E-02	5.27E-02
273	660,429	6.00E-02	138	113	8.35	16,138	1.20E-02	5.27E-02
274	113,363	3.29E-01	100	80	8.60	396	2.67E-03	1.17E-02
275	132,086	3.29E-01	100	86	8.35	549	2.91E-03	1.27E-02
276	132,086	3.29E-01	100	86	8.35	549	2.91E-03	1.27E-02
Soap Tanks[3]							6.26E-02	2.74E-01
Total							***1.26E-01***	***5.52E-01***

1. Storage tank parameters and raw material chemical properties per Procter and Gamble design data sheets.

2. Emissions calculated per AP-42, Section 7.1 (*Organic Liquid Storage Tanks*) and Trinity calculations spreadsheets. Specifically, equations contained in Section 7.1.3.1 (*Total Losses from Fixed Roof Tanks*) are utilized.

3. Total VOC emissions include emissions from categorically exempt soap tanks (exempt per 45CSR13, Table45-13B, Item 49) for site-wide total for PSD applicability.

Table N-50. Soap Making Business C - Finished Product Packing and Capping Emissions

EU ID	Description	Temperature (°F)	Vapor Pressure Group	Vapor Pressure[1] (psia)	Mol. Wt.[1] (lb/lb-mol)	Density[1] (lb/gal)	Throughput (gal/yr)	Kn	VOC Potential to Emit		HAP Potential to Emit	
									(lb/hr)	(tpy)	(lb/hr)	(tpy)
277	Soap Making Business C Packing and Capping	70	3	0.07	92.25	8.39	130,000,000	0.167	3.99E-01	1.75	4.65E-04	2.04E-03

1. Finished product bottling chemical data and operating conditions (i.e., temperature and throughput) for bottling per correspondence with Nicole Gortian (CH2M Hill) on June 26, 2015.
2. K_N calculated assuming infinitely many turnovers, N, per year (i.e., large material throughput and small bottle volume).
3 . Emissions calculated per AP-42, Chapter 7.1 (*Organic Liquid Storage Tanks*), Equation 1-29.

4. Emissions estimates are based on working loss emission estimation methods accounting for displacement of vapor (containing VOC). A 10% safety factor is added to conservatively account for the effect of mixing on emissions.

Table N-51. Soap Making Business C - Truck Loading Emissions

EU ID	Description	Throughput[1] (gal/yr)	Vapor Pressure Group	Vapor Pressure[1] (psia)	Molecular Weight[1] (lb/lb-mol)	Temperature of Liquid[1] (°F)	Density (lb/gal)[1]	Saturation Factor	Loading Loss[2] ($lb/10^3$ gal)	VOC Emissions		HAP Emissions	
										(lb/hr)	(tpy)	(lb/hr)	(tpy)
278	Bulk Truck Loadout	2,000,000	3	0.50	92.25	70	8.39	0.60	0.65	1.49E-01	6.51E-01	1.12E-02	4.92E-02

1. Finished product chemical data and operating conditions (i.e., temperature and throughput) for truck loading per correspondence with Darrin Brockman (P&G) on February 2, 2016.

2. Loading loss emission factors calculated per AP-42, Chapter 5.2 (Transportation and Marketing of Petroleum Liquids), Equation 1. Assumes submerged filling.

Table N-52. Soap Making C - Dry Raw Material Unloading - Emissions

EU ID	Throughput[1] (lb/yr)	PM Emission Factor[2] (lb/ton)	$PM/PM_{10}/PM_{2.5}$ Emissions[3]	
			(lb/hr)	(tpy)
279	31,867,159	0.0041	2.4E-03	1.0E-02
Total				1.0E-02

1. Conservative assumption based on Procter and Gamble design data.
2. AP-42, Section 8.12 Sodium Carbonate, Table 8.12-2 (1/95). Emissions are filterable only.
3. PM assumed to equal PM_{10} and $PM_{2.5}$.

Table N-15. Utilities - Overall Utility Inventory

Equipment Type	Quantity	Design Size	
		Value	Units
Boilers	2	50,267	pph steam
	1	27,600	pph steam
	1	8,918	pph steam
Cooling Towers	1	331	Mgal/hr
	1	792	Mgal/hr
	1	212	Mgal/hr
Fire Pump Engine	2	399	hp
Backup/Standby Power Generator	1	600	kW
Backup/Standby Power Generator	1	200	kW
Backup/Standby Power Generator	1	150	kW
Backup/Standby Power Generator	1	83	kW
Backup/Standby Power Generator	1	200	kW
Engine ULSD Tanks	3	< 500	gallon
Vehicle Refueling ULSD Tank	1	5,000	gallon
Warehouse Heaters	6	3.05	MMBtu/hr

Equipment Type	Quantity	Design Size		Weighted Heat of Vaporization[1] (Btu/lb)	Boiler Efficiency (HHV)	Calculated Size	
		Value	Units			Value	Units
Boilers	2	50,267	pph steam	1,048.4	85%	62	MMBtu/hr
	1	27,600	pph steam	1,048.4	83%	32.63	MMBtu/hr
	1	8,918	pph steam	1,048.4	85%	11	MMBtu/hr

1. Steam parameters:

H_2O heat of vaporization (non-condensate return):	1,178	Btu/lb
H_2O heat of vaporization (condensate return):	1,016	Btu/lb
Condensate return:	80%	

Table N-20. Cooling Tower Potential PM Emissions

Operational and Design Data:

Location		Surfactants	Central Utilities	Liquid Soap A and B	East ETP
Water Flow Rate[1]	(gal/min)	5,517	13,200	3,533	290
Water Flow Rate	(10^3 gal/hr)	331	792	212	17
Water Flow Rate	(10^3 gal/yr)	2,899,735	6,937,920	1,856,945	148,937
Potential Operating Rate	(hr/yr)	8,760	8,760	8,760	8,761
Density of Water	(lb/gal)	8	8	8	8
Total Dissolved Solids (TDS)[2]	(ppm)	6,000	6,000	6,000	6,000
Drift Rate[3]	(%)	0.002%	0.002%	0.002%	0.002%

1. Client specification
2. Maximum of TDS range per facility data.
3. Drift Percentage for Induced Draft Cooler specified in phone call from Drew Hadley (Proctor and Gamble) to Allison Cole (Trinity Consultants) on November 9, 2016.

Emission Factors:[1]

Pollutant	(lb/10^3 gal)
PM	1.00E-03
PM_{10}[2]	4.70E-04
$PM_{2.5}$[3]	3.93E-07

1. Per AP-42, 5th Edition, Section 13.4 , dated 1/95, for PM.
2. PM_{10} emissions are 47% of PM emissions prior to application of PM correction factor, based on the paper *Calculating Realistic PM $_{10}$ Emissions from Cooling Towers* , by Joel Reisman and Gordon Frisbie, 2000.
3. PM_{10} emissions are 0.04% of PM emissions prior to application of PM correction factor, based on the paper *Calculating Realistic PM $_{10}$ Emissions from Cooling Towers* , by Joel Reisman and Gordon Frisbie, 2000.

Calculated Emissions:

Pollutant	Surfactants (Lb/Hr)	Surfactants (Ton/Yr)	Central Utilities (Lb/Hr)	Central Utilities (Ton/Yr)	Liquid Soap A and B (Lb/Hr)	Liquid Soap A and B (Ton/Yr)	East ETP (Lb/Hr)	East ETP (Ton/Yr)	Total Emissions (Lb/Hr)	Total Emissions (Ton/Yr)
PM	3.31E-01	1.45	7.93E-01	3.47	2.12E-01	9.30E-01	1.70E-02	7.46E-02	1.35	5.93
PM_{10}	1.56E-01	6.82E-01	3.73E-01	1.63	9.97E-02	4.37E-01	8.00E-03	3.50E-02	6.36E-01	2.79
$PM_{2.5}$	1.30E-04	5.69E-04	3.11E-04	1.36E-03	8.32E-05	3.64E-04	6.67E-06	2.92E-05	5.31E-04	2.32E-03

Table N-21. Utilities - Engines - Inventory Summary

Permit Unit Number	Model	Type	Number	Size	Unit
281	Cummins QSK19-G8	Backup/Standby Power Generator	1	600	kW
282	Kohler D111TIC	Backup/Standby Power Generator	1	200	kW
264	Cummins QSB7-G5 NR3	Backup/Standby Power Generator	1	150	kW
263	John Deere 4045HF285H	Backup/Standby Power Generator	1	83	kW
280	TBD(1)	Backup/Standby Power Generator	1	200	kW
203 and 204	Clarke JW6H-UFADF0	Fire Pump	2	399	hp

Pollutant	Potential Emissions per Engine, Cummins QSK19-G8 (tpy)	Potential Emissions per Engine, Kohler D111TIC (tpy)	Potential Emissions per Engine, Cummins (tpy)	Potential Emissions per Engine, Clarke (tpy)	Potential Emissions per Engine, TBD(1) (tpy)	Potential Emissions per Engine, John Deere (tpy)	Total Emissions (tpy)
CO	2.5E-01	3.3E-01	6.8E-02	1.8E-01	4.6E-01	7.1E-02	1.532
NO_X	2.40	1.7E-01	5.1E-01	5.7E-01	0.49	1.9E-01	4.894
VOC	5.3E-02	1.2E-01	7.1E-03	2.2E-02	4.0E-02	8.2E-03	2.69E-01
SO_2	7.4E-04	4.5E-05	2.5E-04	3.1E-04	2.5E-04	1.0E-04	2.00E-03
PM	2.1E-02	7.3E-04	8.9E-03	2.2E-02	2.6E-02	9.3E-03	1.11E-01
PM_{10}	1.0E-02	7.3E-04	1.3E-02	2.2E-02	2.6E-02	9.3E-03	1.03E-01
$PM_{2.5}$	1.0E-02	7.3E-04	1.3E-02	2.2E-02	2.6E-02	9.3E-03	1.03E-01

Pollutant	Potential Emissions per Engine, Cummins QSK19-G8 (tpy)	Potential Emissions per Engine, Kohler D111TIC (tpy)	Potential Emissions per Engine, Cummins (tpy)	Potential Emissions per Engine, Clarke (tpy)	Potential Emissions per Engine, TBD(1) (tpy)	Potential Emissions per Engine, John Deere (tpy)	Total Emissions (tpy)
1,1,2,2-Tetrachloroethane	--	1.9E-06	--	--	--	--	1.9E-06
1,1,2-Trichloroethane	--	1.2E-06	--	--	--	--	1.2E-06
1,3-Butadiene	--	5.1E-05	--	--	--	--	5.1E-05
1,3-Dichloropropene	--	9.8E-07	--	--	--	--	9.8E-07
Acetaldehyde	1.3E-03	2.1E-04	4.5E-04	5.3E-04	4.3E-04	1.8E-04	3.6E-03
Acrolein	1.6E-04	2.0E-04	5.5E-05	6.4E-05	5.2E-05	2.2E-05	6.2E-04
Benzene	1.6E-03	1.2E-04	5.5E-04	6.5E-04	5.3E-04	2.2E-04	4.3E-03
Carbon Tetrachloride	--	1.4E-06	--	--	--	--	1.4E-06
Chlorobenzene	--	9.9E-07	--	--	--	--	9.9E-07
Chloroform	--	1.1E-06	--	--	--	--	1.1E-06
Ethylbenzene	--	1.9E-06	--	--	--	--	1.9E-06
Ethylene Dibromide	--	1.6E-06	--	--	--	--	1.6E-06
Formaldehyde	2.0E-03	1.6E-03	7.0E-04	8.2E-04	6.6E-04	2.8E-04	6.9E-03
Methanol	--	2.4E-04	--	--	--	--	2.4E-04
Methylene Chloride	--	3.2E-06	--	--	--	--	3.2E-06
Naphthalene	--	7.5E-06	--	--	--	--	7.5E-06
Polycyclic Aromatic Hydrocarbons (PAH)	2.8E-04	1.1E-05	9.9E-05	1.2E-04	9.5E-05	4.0E-05	7.6E-04
Propylene	4.4E-03	--	1.5E-03	1.8E-03	1.5E-03	6.2E-04	1.2E-02
Styrene	--	9.2E-07	--	--	--	--	9.2E-07
Toluene	6.9E-04	4.3E-05	2.4E-04	2.8E-04	2.3E-04	9.8E-05	1.9E-03
Vinyl Chloride	--	5.5E-07	--	--	--	--	5.5E-07
Xylenes	4.8E-04	1.5E-05	1.7E-04	2.0E-04	1.6E-04	6.8E-05	1.3E-03
Max HAP	***4.4E-03***	***1.6E-03***	***1.5E-03***	***1.8E-03***	***1.5E-03***	***6.2E-04***	***1.2E-02***
Total HAPs	***1.1E-02***	***2.5E-03***	***3.8E-03***	***4.5E-03***	***3.6E-03***	***1.5E-03***	***3.1E-02***

Table N-53. Utilities - Engines - Cummins 600 kW

Source Designation	Engine	Generator
Date Manufactured	TBD	TBD
Manufacturer[1]	Cummins	Cummins
Model No.[2]	QSK19-G8	QSK19-G8
Stroke Cycle[2]	4-Stroke	--
Fuel Used[2]	Diesel	--
Fuel Sulfur Content (%)[3]	0.0015	--
Rated Capacity (eKW)[2]	--	--
Horsepower (bhp)	967	--
Generating Capacity (kW)[1]	--	600
Maximum Fuel Consumption at 100% Load (gal/hr)[2]	45	--
Heat Input (MMBtu/hr)[4]	6.77	--

Operational Detail	Value
Potential Annual Hours of Operation[5] (hr/yr):	500
Potential Fuel Consumption (Mgal/yr):	22.50

Pollutant	Emission Factors	Units	Notes
CO	4.60E-01	g/hp-hr	2
NO_X	4.50	g/hp-hr	2
HC	1.00E-01	g/hp-hr	2, 6
SO_2	3.08E-06	lb/hp-hr	7
PM	4.00E-02	g/hp-hr	2, 8
PM_{10}	4.00E-02	g/hp-hr	2, 8
$PM_{2.5}$	4.00E-02	g/hp-hr	2, 8

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)
CO	9.8E-01	2.45E-01
NO_x	9.6E+00	2.40
VOC	2.1E-01	5.33E-02
SO_2	3.0E-03	7.43E-04
PM	8.5E-02	2.13E-02
PM_{10}	4.0E-02	1.00E-02
$PM_{2.5}$	4.0E-02	1.00E-02

Pollutant	Emission Factor (lb/MMBtu)[9]	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Benzene	9.33E-04	6.3E-03	1.6E-03
Toluene	4.09E-04	2.8E-03	6.9E-04
Xylenes	2.85E-04	1.9E-03	4.8E-04
Propylene	2.58E-03	1.7E-02	4.4E-03
Formaldehyde	1.18E-03	8.0E-03	2.0E-03
Acetaldehyde	7.67E-04	5.2E-03	1.3E-03
Acrolein	9.25E-05	6.3E-04	1.6E-04
Polycyclic Aromatic Hydrocarbons (PAH)	1.68E-04	1.1E-03	2.8E-04
Max HAP		***1.7E-02***	***4.4E-03***
Total HAPs		***4.3E-02***	***1.1E-02***

1. Client specification.
2. Values come from the unit's spec sheet.
3. Per 40 CFR 80 Subpart I, maximum sulfur content of ULSD is 15 ppm (i.e. 0.0015%).
4. To convert from bhp to MMBtu/hr, an average brake-specific fuel consumption of 7,000 Btu/hp-hr was used per AP-42 P-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
5. 500 hours used as projected potential to emit operating hours per EPA guidance. https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf
6. All hydrocarbon (HC) emissions are conservatively assumed to be VOC.
7. SO_2 emission factor from AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
8. All particulates are assumed to be <1 micron in size, where PM, PM_{10}, and $PM_{2.5}$ are assumed to be equivalent, consistent with AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
9. Emission factors from AP-42 Section 3.3, Table 3.3-2 "Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines."

Table N-54. Utilities - Engines - Kohler 200kW

Source Designation	Engine	Generator
Date Manufactured	TBD	TBD
Manufacturer	Doosan	Kohler
Model No.	D111TIC	--
Stroke Cycle[1]	4-Stroke	--
Fuel Used[1]	Natural Gas	--
Rated Capacity (eKW)[1]	--	--
Horsepower (bhp)[2]	302	--
Generating Capacity (kW)[1]	225	200
Maximum Fuel Consumption at 100% Load (scf/hr)[2]	2,115	--
Heat Input (MMBtu/hr)[3]	0.31	--

Operational Detail	Value
Potential Annual Hours of Operation[4] (hr/yr):	500
Potential Fuel Consumption (MMscf/yr):	1.06E+00

Pollutant	Emission Factors	Units	Notes
CO	2.0	g/hp-hr	2
NO_X	1.0	g/hp-hr	2
VOC	7.00E-01	g/hp-hr	2
SO_2	5.88E-04	lb/MMBtu	4
PM	9.50E-03	lb/MMBtu	4
PM_{10}	1.94E-02	lb/MMBtu	4
$PM_{2.5}$	1.94E-02	lb/MMBtu	4

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)
CO	1.3E+00	3.3E-01
NO_x	6.66E-01	1.66E-01
VOC	4.66E-01	1.2E-01
SO_2	1.8E-04	4.5E-05
PM	2.9E-03	7.3E-04
PM_{10}	2.9E-03	7.3E-04
$PM_{2.5}$	2.9E-03	7.3E-04

Pollutant	Emission Factor (lb/MMBtu)[5]	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Acetaldehyde	2.79E-03	8.6E-04	2.1E-04
Acrolein	2.63E-03	8.1E-04	2.0E-04
Benzene	1.58E-03	4.9E-04	1.2E-04
1,3-Butadiene	6.63E-04	2.0E-04	5.1E-05
Carbon Tetrachloride	1.77E-05	5.5E-06	1.4E-06
Chlorobenzene	1.29E-05	4.0E-06	9.9E-07
Chloroform	1.37E-05	4.2E-06	1.1E-06
1,3-Dichloropropene	1.27E-05	3.9E-06	9.8E-07
Ethylbenzene	2.48E-05	7.6E-06	1.9E-06
Ethylene Dibromide	2.13E-05	6.6E-06	1.6E-06
Formaldehyde	2.05E-02	6.3E-03	1.6E-03
Methanol	3.06E-03	9.4E-04	2.4E-04
Methylene Chloride	4.12E-05	1.3E-05	3.2E-06
Naphthalene	9.71E-05	3.0E-05	7.5E-06
PAH	1.41E-04	4.3E-05	1.1E-05
Styrene	1.19E-05	3.7E-06	9.2E-07
Toluene	5.58E-04	1.7E-04	4.3E-05
1,1,2,2-Tetrachloroethane	2.53E-05	7.8E-06	1.9E-06
1,1,2-Trichloroethane	1.53E-05	4.7E-06	1.2E-06
Vinyl Chloride	7.18E-06	2.2E-06	5.5E-07
Xylenes	1.95E-04	6.0E-05	1.5E-05
Max HAP		***6.3E-03***	***1.6E-03***
Total HAPs		***1.0E-02***	***2.5E-03***

1. Client specification.
2. Values come from spec sheet.
3 To convert from bhp to MMBtu/hr, an average heat input of 1,020 Btu/scf was used.
4. 500 hours used as projected potential to emit operating hours per EPA guidance. https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf
5. Emission factors from AP-42 Section 3.2, Table 3.2-3 "Uncontrolled Emission Factors for 4-stroke, Rich-burn Engines," Supplement F, August 2000.

Table N-22b. Utilities - Engines - John Deere 83 kW

Source Designation	Engine	Generator
Date Manufactured	TBD	TBD
Manufacturer[1]	John Deere	Kohler
Model No.[1]	4045HF285H	80REOZJF
Stroke Cycle[1]	4-Stroke	--
Fuel Used[1]	Diesel	--
Fuel Sulfur Content (%)[2]	0.0015	--
Rated Capacity (eKW)[1]	99	--
Horsepower (bhp)[1]	133	--
Generating Capacity (kW)[1]	--	83
Maximum Fuel Consumption at 100% Load (gal/hr)[1]	6.90	--
Heat Input (MMBtu/hr)[3]	0.96	--

Operational Detail	Value
Potential Annual Hours of Operation[5] (hr/yr):	500.00
Potential Fuel Consumption (Mgal/yr):	3.45

Pollutant	Emission Factors	Units	Notes
CO	1.30E+00	g/kW-hr	1
NO_X	3.40	g/kW-hr	1
HC	1.50E-01	g/kW-hr	1, 4
SO_2	3.08E-06	lb/hp-hr	6
PM	1.70E-01	g/kW-hr	1, 7
PM_{10}	1.70E-01	g/kW-hr	1, 7
$PM_{2.5}$	1.70E-01	g/kW-hr	1, 7

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)
CO	2.8E-01	7.1E-02
NO_x	7.4E-01	1.9E-01
VOC	3.3E-02	8.2E-03
SO_2	4.1E-04	1.0E-04
PM	3.7E-02	9.3E-03
PM_{10}	3.7E-02	9.3E-03
$PM_{2.5}$	3.7E-02	9.3E-03

Pollutant	Emission Factor (lb/MMBtu)[9]	Potential Emissions (lb/hr)[8]	Potential Emissions (tpy)
Benzene	9.33E-04	8.9E-04	2.2E-04
Toluene	4.09E-04	3.9E-04	9.8E-05
Xylenes	2.85E-04	2.7E-04	6.8E-05
Propylene	2.58E-03	2.5E-03	6.2E-04
Formaldehyde	1.18E-03	1.1E-03	2.8E-04
Acetaldehyde	7.67E-04	7.4E-04	1.8E-04
Acrolein	9.25E-05	8.9E-05	2.2E-05
Polycyclic Aromatic Hydrocarbons (PAH)	1.68E-04	1.6E-04	4.0E-05
Max HAP		***2.5E-03***	***6.2E-04***
Total HAPs		***6.2E-03***	***1.5E-03***

1. Values come from the unit's spec sheet "Kohler Power Systems Model: 80REOZJF". Emissions from EPA Certificate HJDXL04.5119-004.

2. Per 40 CFR 80 Subpart I, maximum sulfur content of ULSD is 15 ppm (i.e. 0.0015%).

3. To convert from gal/hr to MMBtu/hr, an average heat content of diesel of 139,000 btu/gal was used per http://www.engineeringtoolbox.com/energy-content-d_868.html

4. 500 hours used as projected potential to emit operating hours per EPA guidance. https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf

5. All hydrocarbon (HC) emissions are conservatively assumed to be VOC.

6. SO_2 emission factor from AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.

7. All particulates are assumed to be <1 micron in size, where PM, PM_{10}, and $PM_{2.5}$ are assumed to be equivalent, consistent with AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.

8. Emission Rate (lb/hr) = Rated Capacity (MMBtu/hr or bhp) × Emission Factor (lb/MMBtu or lb/bhp-hr).

9. Emission factors from AP-42 Section 3.3, Table 3.3-2 "Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines."

Table N-55. Soap Making C - Backup Generator

Source Designation	Engine	Generator
Date Manufactured	TBD	TBD
Manufacturer	TBD	TBD
Model No.	TBD	TBD
Stroke Cycle[1]	4-Stroke	--
Fuel Used[1]	Diesel	--
Fuel Sulfur Content (%)[3]	0.0015	--
Rated Capacity (eKW)[1]	--	--
Calculated Horsepower (bhp)[4]	322	--
Generating Capacity (kW)[1,4]	240	200
Maximum Fuel Consumption at 100% Load (gal/hr)[2]	17.12	--
Heat Input (MMBtu/hr)[5]	2.25	--

Operational Detail	Value
Potential Annual Hours of Operation[6] (hr/yr):	500
Potential Fuel Consumption (Mgal/yr):	8.56

Pollutant	Emission Factors	Units	Notes
CO	3.5	g/kW-hr	7
NO_X	3.70	g/kW-hr	8
TOC	0.30	g/kW-hr	8
SO_2	3.08E-06	lb/hp-hr	9
PM	2.00E-01	g/kW-hr	7, 10
PM_{10}	2.00E-01	g/kW-hr	7, 10
$PM_{2.5}$	2.00E-01	g/kW-hr	7, 10

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)
CO	1.85	4.6E-01
NO_x	1.96	0.49
VOC	0.16	0.04
SO_2	9.9E-04	2.5E-04
PM	1.1E-01	2.6E-02
PM_{10}	1.1E-01	2.6E-02
$PM_{2.5}$	1.1E-01	2.6E-02

Pollutant	Emission Factor (lb/MMBtu)[11]	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Benzene	9.33E-04	2.1E-03	5.3E-04
Toluene	4.09E-04	9.2E-04	2.3E-04
Xylenes	2.85E-04	6.4E-04	1.6E-04
Propylene	2.58E-03	5.8E-03	1.5E-03
Formaldehyde	1.18E-03	2.7E-03	6.6E-04
Acetaldehyde	7.67E-04	1.7E-03	4.3E-04
Acrolein	9.25E-05	2.1E-04	5.2E-05
Polycyclic Aromatic Hydrocarbons (PAH)	1.68E-04	3.8E-04	9.5E-05
Max HAP		***5.8E-03***	***1.5E-03***
Total HAPs		***1.4E-02***	***3.6E-03***

1. Client specification of generator capacity and fuel.
2. Assumed based on engines of a similar size.
3. Per 40 CFR 80 Subpart I, maximum sulfur content of ULSD is 15 ppm (i.e. 0.0015%).
4. Diesel engine horsepower (BHP) calculated assuming 0.7457 kW per horsepower and an efficiency loss of 20%. Engine power calculated from horsepower assuming 0.7457 kW per horsepower.
5. To convert from bhp to MMBtu/hr, an average brake-specific fuel consumption of 7,000 Btu/hp-hr was used per AP-42 P-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
6. 500 hours used as projected potential to emit operating hours per EPA guidance. https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf
7. Engine presumed to be Tier III certified. Emission factors from 40 CFR 89.112.
8. TOC assumed to be equal with NMHC and VOC. Engine presumed to be Tier III certified. Emission factors from 40 CFR 89.112 for NMHC+NO_X separated into NMHC and NO_X using ratio of NO_X to the sum of NO_X and TOC (from AP-42 Section 3.3, Table 3.3.1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996) and the ratio of TOC to the sum of NO_X and TOC.
9. SO_2 emission factors from AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
10. All particulates are assumed to be <1 micron in size, where PM, PM_{10}, and $PM_{2.5}$ are assumed to be equivalent, consistent with AP-42 Section 3.3, Table 3.3-1 "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines," Supplement B, October 1996.
11. Emission factors from AP-42 Section 3.3, Table 3.3-2 "Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines."

Table N-28. Utilities - Ink Usage - Emissions

Business Unit	Case Printing Ink			Code Dater Ink			VOC Emissions[2]		HAP Emissions[3]	
	Annual Ink Usage[1] (lb/yr)	VOC Content[2] (%)	HAP Content[3] (%)	Annual Ink Usage[1] (lb/yr)	VOC Content[2] (%)	HAP Content[3] (%)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Soap Making Business A&B	8,300	10%	10%	--	--	--	9.5E-02	4.2E-01	9.5E-02	4.2E-01
Soap Making Business C	13,000	1%	1%	1,000	10%	10%	2.6E-02	1.2E-01	2.6E-02	1.2E-01
Dry Consumer Products A	8,625	1%	1%	--	--	--	9.8E-03	4.3E-02	9.8E-03	4.3E-02
Customization	330	10%	10%	--	--	--	3.8E-03	1.7E-02	3.8E-03	1.7E-02
Total							1.35E-01	5.90E-01	1.35E-01	5.73E-01

1. Conservative assumption based on Procter and Gamble design data.
2. Conservatively determined ink VOC composition from vendor SDS, and assume that all VOC is lost to atmosphere (fugitive) during application.
3. Assumes all VOC in the ink is HAP. HAP is a glycol ether.

ATTACHMENT P

Public Notice

AIR QUALITY PERMIT NOTICE

Notice of Application

Notice is given that the Procter & Gamble Manufacturing Company has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update to Construction Permit R13-3316C for a manufacturing operation located at 396 Development Drive, near Inwood in Berkeley County, West Virginia. The latitude and longitude coordinates are:

Latitude:	39° 24' 16.93" N	(39.404703)
Longitude:	78° 0' 28.66" W	(-78.007961)

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: Particulate matter: 0.11 tons per year, Particulate matter less than 2.5 microns: 0.03 tons per year; Particulate matter less than 10 microns: 0.07 tons per year; Sulfur Dioxide: 0 tons per year; Oxides of Nitrogen: 1.34 tons per year; Carbon Monoxide: 0.77 tons per year; Volatile Organic Compounds: 4.69 tons per year; Hazardous Air Pollutants: 0.48 tons per year, including Formaldehyde (0.013 tons per year) and Glycol Ether (0.46 tons per year).

Startup of operation is planned to begin on or about the first day of November, 2018. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the 18th day of November, 2017

By:
The Procter & Gamble Manufacturing Company
Francisco Lanza
Manufacturing Capability Associate Director
Sharon Woods Innovation Center
A2M 11-3
11510 Reed Hartman Highway
Cincinnati, OH 45241

ATTACHMENT

Strike-Through Permit

1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1E	Surfactant Making Process	2017	3,000 gal/hr	1C
2S	2E	Surfactant Making Process	2017	3,000 gal/hr	2C
3S	3E	Surfactant Tank	2017	120,762 gal	N
4S	4E	Surfactant Tank	2017	48,345 gal	N
5S	5E	Surfactant Tank	2017	40, 109 gal	N
6S	6E	Surfactant Tank	2017	40, 109 gal	N
7S	7E	Surfactant Tank	2017	15,125 gal	N
8S	8E	Surfactant Tank	2017	15,125 gal	N
9S	9E	Surfactant Tank	2017	15,125 gal	N
10S	10E	Surfactant Tank	2017	72,475 gal	N
11S	11E	Surfactant Tank	2017	72,475 gal	N
12S	12E	Surfactant Tank	2017	72,475 gal	N
13S	13E	Surfactant Tank	2017	72,475 gal	N
14S	14E	Surfactant Tank	2017	72,475 gal	N
15S	15E	Surfactant Tank	2017	72,475 gal	N
16S	16E	Surfactant Tank	2017	26,083 gal	N
17S	17E	Surfactant Tank	2017	15,125 gal	N
18S	18E	Surfactant Tank	2017	15,125 gal	N
19S	19E	Surfactant Bulk Liquid Transfer	201~~7~~8	4,669,701~~17,150,000~~ gal/yr	N
20S	20E	Liquid Soap A & B Tank	2017	79,252 gal	N
21S	21E	Liquid Soap A & B Tank	2017	79,252 gal	N

1.0 Emission Units

204S	173E	Fire Pump Engine	2017	399 hp	N
~~205S~~	~~174E~~	~~Emergency Generator~~	~~2017~~	~~350 kw~~	~~N~~
~~206S~~	~~175E~~	~~Emergency Generator~~	~~2017~~	~~350 kw~~	~~N~~
~~207S~~	~~176E~~	~~Emergency Generator~~	~~2017~~	~~350 kw~~	~~N~~
263S	233E	Emergency Generator	2017	83 kw	N
264S	234E	Emergency Generator	2017	150 kW	N

208S	177E	Fuel Tank	2017	5,162 gal	N
210S	179E	Warehouse Heaters	2017	18.3 mmbtu/hr (total)	N
216S	185E	VOC containing Water/waste-water Pretreatment Chemicals	2017	174,928 kg/yr	N
217S	186E	Plastic Pellet Unloading	2017	100,000 tons/yr	21C
218S	187E	Plastic Pellet Unloading	2017		22C
219S	188E	Plastic Pellet Unloading	2017		23C
220S	189E	Plastic Pellet Unloading	2017		24C
221S	190E	Plastic Pellet Unloading	2017		25C
222S	191E	Plastic Resin Storage Silo	2017	100,000 tons/yr	N
223S	192E	Plastic Resin Storage Silo	2017		N
224S	193E	Plastic Resin Storage Silo	2017		N
225S	194E	Plastic Resin Storage Silo	2017		N
226S	195E	Plastic Resin Storage Silo	2017		N
227S	196E	Plastic Resin Storage Silo	2017		N
228S	197E	Plastic Resin Storage Silo	2017		N
229SS	198E	Plastic Resin Storage Silo	2017		N
230S	199E	Plastic Resin Storage Silo	2017		N

1.0 Emission Units

231S	200E	Plastic Resin Storage Silo	2017		N
232S	201E	Plastic Resin Storage Silo	2017		N
233S	202E	Plastic Resin Storage Silo	2017		N
234S	203E	Plastic Resin Storage Silo	2017		N
235S	204E	Plastic Resin Storage Silo	2017		N
236S	205E	Plastic Resin Storage Silo	2017		N
237S	206E	Plastic Resin Storage Silo	2017		N
238S	207E	Plastic Resin Storage Silo	2017		N
239S	208E	Plastic Resin Storage Silo	2017		N
240S	209E	Plastic Resin Storage Silo	2017		N
241S	210E	Plastic Resin Storage Silo	2017		N
242S	211E	Plastic Resin Storage Silo	2017		N
243S	212E	Plastic Resin Storage Silo	2017		N
244S	213E	Plastic Resin Storage Silo	2017		N
245S	214E	Plastic Resin Storage Silo	2017		N
246S	215E	Plastic Regrind	2017	32,000 tons/yr	26C
247S	216E	Plastic Forming	2017	100,000 tons/yr	N
248S	217E	Plastics Molding, Cleaning Fugitives	2017	6 tons/yr	N
249S	218E	Plastics Molding Space Heaters	2017	17 mmbtu/hr total	N
255S	224E	Plastics Molding Cooling Tower	2017	7,000 gpm	N
256S	225E	Plastics Mold. Emergency Gen.	2017	100 kw	N
257S	226E	Case Printing Ink	2018~~7~~	~~3,430~~31,255 lb/yr	N
258S	227E	Case Packing Glue	2017	690,080 lb/yr	N

1.0 Emission Units

265S	235E	Surfactant Tank	2018	120,762 gal	N
266S	236E	Surfactant Tank	2018	40,109 gal	N
267S	237E	Surfactant Tank	2018	120,762 gal	N
268S	238E	Mixing Tank	2018	32,315,255 gal/yr	N
269S	239E	Surfactant Phase 2 Truck and Rail Loadout	2018	7,968,239 gal/yr	N
270S	240E	Liquid Soap C Tank	2018	16,138 gal	N
271S	241E	Liquid Soap C Tank	2018	16,138 gal	N
272S	242E	Liquid Soap C Tank	2018	16,138 gal	N
273S	243E	Liquid Soap C Tank	2018	16,138 gal	N
274S	244E	Liquid Soap C Tank	2018	396 gal	N
275S	245E	Liquid Soap C Tank	2018	549 gal	N
276S	246E	Liquid Soap C Tank	2018	549 gal	N
277S	247E	Liquid Soap C - Pack and Cap	2018	130,000,000 gal/yr	N
278S	248E	Liquid Soap C - Bulk Truck Loadout	2018	2,000,000 gal/yr	N
279S	249E	Dry Raw Material Loadout	2018	31,867,159 lb/yr	N
280S	250E	Emergency Generator	2018	200 kW	N
281S	251E	Emergency Generator	2018	600 kW	N
282S	252E	Emergency Generator	2018	200 kW	N
283S	253E	Cooling Tower	2018	17 Mgal/hr	N

Surfactant Startup Preheater	0.78	0.03	0.01	0.01	0.09	0.01	0.12	0.01	1.30	0.05
Surfactant Manufact. Tanks	--	--	--	--	0.3528	1.5240	--	--	--	--
Truck and Rail Loading[1]	--	--	--	--	0.012	0.0606	--	--	--	--
Liq. Soap A and B Outdoor Tanks	--	--	--	--	0.24	1.70	--	--	--	--
Liq. Soap A and B Indoor Tanks	--	--	--	--	0.17	0.76	--	--	--	--
Liq. Soap C Tanks	--	--	--	--	0.13	0.55	0.01	0.01	--	--
Liq Soap Packing & Capping	--	--	--	--	0.01	0.01	--	--	--	--
Liq. Soap C Packing & Capping	--	--	--	--	0.40	1.75	--	--	--	--
Liq. Soap C Truck Loading	--	--	--	--	0.15	0.65	--	--	--	--
Rotoclones & Liq. Soap Fug.	--	--	--	--	33.23	33.42	4.57	20.06	--	--
Liquid Soap RTO[2]	0.24	1.10	0.01	0.01	213.50	8.00	0.02	0.07	1.30	5.80
Dry Cons. Prod Manuf. Out. Tanks	--	--	--	--	0.07	0.31	--	--	--	--
Dry Cons. Prod Manuf. In. Tanks	--	--	--	--	0.62	0.76	--	--	--	--
Dry Cons. Prod. Baghouses/Fab. Filters	--	--	--	--	--	--	3.81	16.71	--	--
Dry Cons. Prod Manufact. Fugitives	--	--	--	--	2.0	8.70	--	--	--	--
Main Facility Boilers	11.31	49.54	0.10	0.41	0.56	2.46	1.17	5.14	5.78	25.33
Main Facility Cooling Towers	--	--	--	--	--	--	1.35	5.90	--	--
Main Facility Engines	19.5615.68	4.893.92	0.045	0.012	1.080.32	0.2708	0.4436	0.1109	6.123.32	1.530.83
Main Facility Process Heaters	0.90	3.90	0.02	0.05	0.10	0.44	0.14	0.60	1.51	6.60
Water/Waste water Treatment	--	--	--	--	2.99	13.04	--	--	--	--
Case Print. Ink & Case Pack. Glue Use	--	--	--	--	0.184	0.8059	--	--	--	--
Plastics Molding Cyclones	--	--	--	--	--	--	0.29	0.35	--	--
Plastics Moldings Silos	--	--	--	--	--	--	2.91	3.50	--	--
Plastic Regrind	--	--	--	--	--	--	0.04	0.17	--	--

[1] Less than 0.001 lb/hr potential particulate emissions from surfactant unloading.
[2] Maximum hourly VOC emissions of 213.5 lb/hr (less than 24 hours per year). Maximum hourly VOC controlled emissions of 6.4 lb/hr.

Plastic Molding Fugitives	--	--	--	--	2.07	9.07	--	--	--	--
Plastic Molding Space Heat.	0.83	3.65	0.01	0.04	0.10	0.41	0.13	0.56	1.40	6.13
Plastic Molding Cool. Tower	--	--	--	--	--	--	0.42	1.84	--	--
Plastic Molding Engines	0.01	0.01	0.01	0.01	0.06	0.01	0.02	0.01	0.02	0.01
De Minimis Sources	--	--	--	--	0.2	1.0	--	--	--	--
Total	**34.6931.22**	**67.766.885**	**2.301**	**1.956**	**260.1458.52**	**89.855.21**	**22.324**	**76.741**	**17.495.51**	**45.41969**

4.1.3 The permittee shall maintain the pH of the scrubbing liquor to a level at least as alkaline as it was during the most recent test which showed compliance with the emission levels of 4.1.1.

4.1.4 Each surfactant startup preheater shall not operate more than 72 hours per year.

4.1.5 All process tanks for Liquid Soap A and B manufacturing which incorporate dust control systems shall be equipped with rotoclones for emission control. Said rotolclones shall be designed, installed, operated and maintained so as to achieve emissions outlined in 4.1.2.

4.1.6 All hot mixing vessels for Liquid Soap A shall be equipped with an RTO to be operated anytime the mixing process uses the heated volatile processing aid. Said RTO shall be designed, installed, operated and maintained so as to achieve a minimum destruction efficiency of at least 97%. Operation of the hot mixing process vessels using the heated volatile processing aid without RTO shall be maintained at less than 24 hours per year.

4.1.7 The Dry Consumer Laundry and Cleaning Products area shall be equipped with fabric filters to control particulate emissions.

4.1.8 Boiler Nos. 1 and 2 shall not exceed a heat input of 62 mmbtu/hr each. Boiler No. 3 shall not exceed a heat input of 33 mmbtu/hr. All boilers shall be fired exclusively with pipeline quality natural gas.

4.1.9 Boiler Nos. 1 and 2 shall not consume more than 543 mmscf of fuel per year each. Boiler No.3 shall not consume more than 286 mmscf of fuel per year.

4.1.10 Visible emissions from any boiler shall not exceed 10% opacity based on a six minute block average. **[45CSR§2-3.1.]**

4.1.11 The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup of the natural gas fired boilers, as provided by §60.7 of this part. **[40 CFR §60.48c(a)]**

4.1.12 The cooling towers shall be operated with a drift rate of no more than 0.002%. Additionally, the total dissolved solids (TDS) content of the cooling tower water shall not exceed 6,000 ppm.

4.1.13 The four emergency generators (205S, 206S,207S, and 2263S, 264S, 280S, 281S) and two fire water pump engines (203S and 204S) shall fire only ultra low sulfur diesel fuel with a sulfur content of no greater than 0.0015% by weight.

4.1.1X The Kohler/John Deere emergency generator (263S) shall not consume more than 6.9 gallons of fuel oil per hour.

4.1.1X The Cummins emergency generator (264S) shall not consume more than 17.12 gallons of fuel oil per hour.

4.1.1X The emergency generator (280S) shall not consume more than 17.12 gallons of fuel oil per hour.

4.1.1X. The Cummins emergency generator (281S) shall not consume more than 45 gallons of fuel oil per hour.

4.1.15 Each of the two Clark fire pump engines (203S and 204S) shall not consume more than 20.0 gallons of fuel oil per hour.

4.1.16 The 4 stroke rich burn emergency generator (256S) shall fire only pipeline quality natural gas. Said engine shall not consume more than 1116 scf per hour of natural gas.

4.1.1X The Kohler 4-stroke rich burn emergency generator (282S) shall fire only pipeline quality natural gas. Said engine shall not come more than 2115 scf per hour of natural gas.

4.1.17. Emissions from the emergency generators and fire water pump engines shall not exceed the following (all limits in g/kW-hr, unless otherwise noted): **[40 CFR §60.4205]**

Engine	NMHC + NO_x	CO	PM
Fire Water Pump Engine (203)	4.0	--	0.20
Fire Water Pump Engine (204)	4.0	--	0.20
~~Emergency Generator (205)~~	~~4.0~~	~~3.5~~	~~0.20~~
~~Emergency Generator (206)~~	~~4.0~~	~~3.5~~	~~0.20~~
~~Emergency Generator (207)~~	~~4.0~~	~~3.5~~	~~0.20~~
Emergency Generator (256)	2 g/hp-hr NO_X 1 g/hp-hr VOC	4 g/hp-hr	--
Emergency Generator (263)	4.0	5.0	0.30
Emergency Generator (264)	4.0	3.5	0.20
Emergency Generator (280)	4.0	3.5	0.20
Emergency Generator (281)	6.4	3.5	0.20
Emergency Generator (282)	2 g/hp-hr NO_X 1 g/hp-hr VOC	4 g/hp-hr	--

4.1.18.1 Compliance with the above limits shall be determined by purchasing certified engines. **[40 CFR §60.4211(c)]**

4.1.19 The emergency generators (~~205S, 206S,207S and~~ 263S, 264S, 280S, 281S) and fire pump engines (203S and 204S) shall fire only nonroad diesel fuel that meets the requirements of 40 CFR 80.510(b). **[40 CFR §60.4207(b)]**

4.1.20 The emergency generators (~~205S, 206S,207S~~, ~~and~~ 263S, 264S, 280S, 281S) and fire pump engines (203S and 204S) must meet all applicable requirements of 40 CFR 60 Subpart IIII.

[40 CFR §63.6590(c)(1)]

4.1.21 The emergency generators (256S and 282S) must meet all applicable requirements of 40 CFR 60 Subpart JJJJ. **[40 CFR §63.6590(c)(1)]**

4.1.22 Cyclones shall be used to control PM emissions from rail car unloading of pellets to the rail car unloading feeder. Said cyclones shall be designed, installed, operated and maintained so as to achieve the Plastics Molding Cyclone emission rate of 4.1.2.

4.1.23 The total amount of pellets unloaded into the 24 plastics molding silos combined shall not exceed 100,000 tons per year.

4.1.24 PM emissions from the plastic regrind process shall be controlled with a bin vent filter. Said filter shall be designed, installed, operated and maintained so as to achieve the plastic regrind emission rate of 4.1.2.

4.1.25 The total amount of pellets reground shall not exceed 32,000 tons per year.

4.1.26. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. Testing Requirements

4.2.1. In order to determine compliance with the SO_2, VOC and PM scrubber stack emission limitations of 4.1.2 of this permit, the permittee shall perform EPA approved stack testing on each scrubber stack within 180 days of startup. Said testing shall utilize EPA approved methods unless otherwise approved by the Director.

4.2.2 In order to determine compliance with the VOC RTO emission limitations of 4.1.2 of this permit, the permittee shall perform EPA approved stack testing on the RTO stack within 180 days of startup. Said testing shall utilize EPA approved methods unless otherwise approved by the Director.

4.2.3 The testing required under conditions 4.2.1 and 4.2.2 of this permit shall be repeated at least once every 5 years.

4.2.4 In order to determine compliance with the opacity limits of 4.1.10 of this permit, the permittee shall conduct visible emission checks and / or opacity monitoring and recordkeeping for each boiler stack.

a. The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course.

b. Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.