ANALYSIS, PRELIMINARY DETERMINATION AND DRAFT PERMIT FOR THE RENEWAL OF OPERATION PERMIT NUMBER 612023940-P01

AND ANALYSIS, PRELIMINARY DETERMINATION AND DRAFT PERMIT FOR THE REQUIREMENTS FOR PRE-APPROVED PROJECTS AND FACILITY CHANGES UNDER CONSTRUCTION PERMIT NUMBER 11-SJZ-179

FOR
3M PRAIRIE DU CHIEN

LOCATED AT
405 EAST FREDRICK STREET (BUILDING 49) AND
801 NORTH MARQUETTE ROAD (BUILDING 50),
PRAIRIE DU CHIEN, CRAWFORD COUNTY, WISCONSIN
ON THE OPERATION OF
AN EXISTING
ABRASIVE AND FLOOR CARE PRODUCTS MANUFACTURING FACILITY

This review was performed by the Wisconsin Department of Natural Resources in accordance with Sections 285.60 to 285.66, Wis. Stats. and Chapter NR 407, Wis. Adm. Code. This review is for a Part 70 source located in an area which is designated attainment/unclassified for all criteria pollutants.

Air Pollution Control Construction Permit:	11-SJZ-179
Air Pollution Control Operation Permit:	612023940-P10

Reviewed by: Sonny Zentner Date: 12/18/12

Peer review conducted by: /s/ Mary Oleson Date: 10/25/11

Preliminary Determination Approved by:	**Signature**	**Date**
Regional Supervisor or Central Office Designee:	/s/ Jeffery Johnson	12/19/12
Stationary Source Modeling Team Leader:	Not Applicable	
Compliance Engineer (reviewed/approved):	/s/ Marty Sellers	08/13/12

Approved for Public Review and Comment: /s/ Jeffery Johnson Date: 12/19/12

cc: Martin Sellers - West Central Region Air Program, La Crosse Area Office
Joseph W. & Emma L. Wachute Memorial Library, 125 S. Wacouta Ave., Prairie du Chien, WI 53821-1633

INTRODUCTION

Sources which are not exempt from the operation permit requirements under Section 407.03, Wis. Adm. Code, that were issued an operation permit from the Department of Natural Resources, are required to obtain a renewed air pollution control operation permit. Sources subject to the requirements must submit a permit renewal application to the Department by the date set forth in Sections 285.66(3)(a), Wis. Stats., and NR 407.04(2), Wis. Adm. Code. The renewal application is then reviewed following the provisions set forth in Sections 285.62, 285.63 and 285.64, Wis. Stats., and Chapter NR 407, Wis. Adm. Code.

Subject sources are to be reviewed for their air pollution control technology and for their impact upon the air quality. This is to insure compliance with all applicable rules and statutory requirements. The review will show why the source(s) operation should be approved, conditionally approved, or disapproved. It will encompass emission calculations and air quality analysis using US EPA models, if applicable. Emissions from volatile organic compound (VOC) sources and small sources whose emissions are known to be insignificant are normally not modeled. As a precautionary note, the emission estimates may be based on US EPA emission factors (AP-42) or theoretical data and can vary from actual stack test data.

This review is based on information contained within the renewal application submitted for an air pollution control operation permit. A renewed operation permit may be issued if the criteria set forth in sections 285.63, 284.64 and 285.66, Wis. Stats., are met.

A final decision on the renewal will not be made until the public has had an opportunity to comment on the department's analysis, preliminary determination and draft permit. After all comments have been considered, a proposed permit will be drafted and sent to the United States Environmental Protection Agency (US EPA) for a 45-day review period. Any person may petition the US EPA under 40 CFR Part 70.8(d) within 60 days after the expiration of the 45-day review period to make an objection to the permit. Unless the US EPA objects in writing to the issuance of the permit as proposed within that 45-day period, the department will issue the final permit as proposed. The conditions proposed in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the Department.

GENERAL APPLICATION INFORMATION

Owner/Operator: 3M Prairie du Chien

<u>Facility Address:</u>
405 East Frederick Street (Building 49) and
801 North Marquette Road (Building 50)
Prairie du Chien, WI 53821-0119

<u>Mailing Address:</u>
801 North Marquette Road
Prairie du Chien, WI 53821-0119

Responsible Official: Tom Harris, Plant Manager
608-326-2466

Application Contact Person: Mark Manninen, Environmental Permitting Manager
651-737-3588

Application Submitted By: Mark Manninen, Environmental Permitting Manager
651-737-3588

Date of Administratively Complete Application: 07/29/08

Dates of Submittal: 07/08/08 (application received), 07/16/09, 01/26/10, 04/07/11, 04/12/11, 06/13/11, 07/26/11, 08/03/11, 08/23/11, 08/24/11, 09/08/11, 09/26/11, 09/27/11, 09/29/11, 09/30/11, 10/03/11, 10/04/11, 10/05/11, 10/06/11, 10/12/11, 10/13/11, 10/17/11, 11/01/11, 12/13/11, 12/20/11, 01/16/12, 02/29/12, 04/17/12, 04/26/12, 04/30/12, 05/02/12, 05/07/12, 06/12/12, 06/18/12, 08/10/12, 08/28/12, 08/30/12, 09/05/12, 09/18/12, and 12/10/12

SOURCE DESCRIPTION

3M operates at two locations in Prairie du Chien, Building 49 located at 405 East Fredrick Street and Building 50 located at 801 North Marquette Road. Building 49 has been assigned facility identification number (FID) 612040440 and Building 50 has been assigned facility identification number 612023940. These locations are adjacent properties. Building 49 and Building 50 make up the Prairie du Chien facility.

Building 49 produces a variety of abrasive related products. Operations include manufacturing lines and coating operations.

Building 50 produces a variety of fiber-related materials, surface conditioning products, traction enhancement products, vinyl Nomad coiled floor and static control table mats, and thermal insulating products. Operations include several coating operations, some extrusion operations and several converting operations for all product lines. Four combination natural gas and fuel oil boilers provide Building 50 with process steam and general heating.

3M Prairie du Chien is located in an industrial area in the northeast area of the Prairie du Chien city limits. The facility is bordered on the east side by State Highway 35 and directly to the north by Frederick Street. The property line to the south is established by Cedar Street and to the west by the Burlington Northern Railroad right of way. Residential housing is located approximately one block from the west property border across the railroad tracks. Residential homes are approximately 0.2 miles to the south of the property line. Approximately two blocks to the east of the property line are bluffs about 300 feet high. The Mississippi River is located to the west side of Prairie du Chien and its main channel is approximately 0.9 miles from the facility property line.

GREEN TIER 2 PARTICIPATION CONTRACT (Legal Binding per Ch. 299.83, Wis. Stats.)

On August 4, 2011, 3M Prairie du Chien (Participant) requested to become a Tier 2 participant of the Green Tier Program. Becoming a Tier 2 participant requires that both parties enter into negotiations that ultimately are written in a legally binding contract between 3M Prairie du Chien and the Wisconsin Department of Natural Resources (DNR). This contract is called a Participation Contract. One of the elements proposed and/or contained in the Draft Participation Contract (PC), between 3M and the DNR, will result in flexibility, with conditions, issued as part of air pollution control construction permit 11-SJZ-179 and operation permit 612023940-P10 in exchange for a commitment to superior environmental performance. (Green Tier is designed to offer alternatives to traditional regulatory approaches that offer the greatest environmental benefit for investment of resources by assisting an entity in achieving superior environmental performance). The conditions and commitments required of a participant in Tier 2 of Green Tier include, but are not limited to, the following:

- Implement and maintain an Environmental Management System (EMS) according to ISO 14001 standards.
- Maintain an interested persons group and conduct informational meetings about the latest plant developments and/or progress towards meeting the conditions of the Participation Contract.
- Conduct annual compliance audits and report violations found.
- Report previous year's performance in an all-inclusive annual report.
- Commitment to the following Sustainability Goals: Though other performance measures may be identified by the participant during the Contract period, the participant has committed to the following:
  - Maintain or reduce volatile organic compound emissions indexed to good output with the goal to contribute to the overall company wide goal of reducing VOC emissions by 15% by 2015 from 2010 base year.
  - Reduce waste 10% by 2015 from 2010 base year, indexed to pound of product output.
  - Improve energy efficiency 25% by 2015 from 2005 base year indexed to pound of product output.
- Continue developing internal 3M environmental stewardship goals including Sustainability Goals, Pollution Prevention Pays (3P) projects, and Environmental Target goals.

Green Tier recognizes past environmental performance, that initial efforts or environmental gains can be quite significant, and that future gains will most likely be lower incrementally as they become more difficult to achieve. Historically, 3M Prairie du Chien has developed and implemented projects reducing the plant's impact on the environment. The 3M Prairie du Chien plant has implemented 195 Pollution Prevention Pays (3P) projects since 1975 and has prevented more than 1,800 tons of air pollution, 2,900 tons of water pollution, and 10,000 tons of waste in the first year of the projects. Pollution Prevention Pays (3P) is a pollution prevention program developed by 3M. Continuous environmental stewardship projects at the 3M Prairie du Chien facility include projects in the areas of ventilation improvements, lighting upgrades, and the installation of variable speed fan motor drives. Since 2010, the annualized results of these projects include a 9% reduction in natural gas usage, an actual reduction of 2,600 metric tons of carbon dioxide per year, and approximately 1 million kilowatt-hours per year reduction in electricity usage. In 2010, for the third time in the past six years, the Prairie du Chien facility was recognized with the highest 3M award (Platinum) for energy management. Similar recognition in 2010 was extended to only 11 other 3M facilities globally (more than 150 facilities). In 2009, a 7 acre portion of the site was restored as a native prairie.

This operation permit will consist of a construction permit and an operation permit and will be identified as construction permit 11-SJZ-179 and operation permit 612023940-P10. Construction permit 11-SJZ-179 and operation permit 612023940-P10 will be one permit that includes requirements for existing equipment and requirements for pre-approved projects and facility changes. Construction permit 11-SJZ-179 and operation permit 612023940-P10 will pre-approve the installation and/or modification of specific process units as long as the Participation Contract is in effect. The pre-approved projects and facility changes to be installed and/or modified under construction permit 11-SJZ-179 and operation permit 612023940-P10 include the following:

- Modification of an existing web coating line or surface coating process
- Construction or installation of a new web coating line
- Construction or installation of a new plastic or metal parts surface coating process
- Subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit
- Installation of new or modification of existing semi-finished web processing equipment
- Installation or modification of air pollution control devices

- Implementation of R&D/Pilot/Development projects

The installation and/or modification of process lines will be limited to process lines that are similar in design and function to existing process lines that are currently operated at the facility. Please refer to the Pre-Approved Projects and Facility Changes Under Part III description in the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section below for an explanation of each pre-approved project and the requirements that apply to all pre-approved projects and facility changes. All requirements related to these pre-approved projects and facility changes can be found in Part III of construction permit 11-SJZ-179 and operation permit 612023940-P10. The requirements related to the existing equipment can be found in Part I of construction permit 11-SJZ-179 and operation permit 612023940-P10.

Construction permit 11-SJZ-179 and operation permit 612023940-P10 will also include a restriction to limit the potential volatile organic compound emission from the entire facility to 249 tons per year to allow the facility to become a synthetic minor prevention of significant deterioration (PSD) source. Currently, the total potential volatile organic compound emissions from the entire facility are 1,489 tons per year.

The Participation Contract provides an opportunity for greater flexibility while reducing paperwork and administrative tasks for the DNR. Paperwork and administrative tasks will be reduced because resources will not be needed to issue multiple construction permits for multiple installations and modifications. Under the Participation Contract, one construction permit will cover the installation and modification of multiple projects rather than one construction permit for each installation and each modification.

The Participation Contract has a term of five years with the possibility of a renewal every five years, thereafter. Because Part III of construction permit 11-SJZ-179 and operation permit 612023940-P10 is the basis under the Participation Contract, granting construction and operation of processes listed in Part III.A. of construction permit 11-SJZ-179 and operation permit 612023940-P10, construction permit 11-SJZ-179 will be in affect for five years and will expire on the same day as operation permit 612023940-P10. If the facility decides to renew the Participation Contract, pursuant to Section 299.80, Wis. Stats., a new construction permit may be issued when the operation permit 612023940-P10 is renewed to grant further construction and operation of processes listed in Part III.A. of operation permit 612023940-P10 and construction permit 11-SJZ-179. This new construction permit will be in affect for five years. The operation permit will expire 5 years after the issuance date and can be renewed every 5 years after the issuance date. This preliminary determination to issue 3M Prairie du Chien an operation permit highlights the proposed variances from air pollution control provisions of ch. 285, Wis. Stats, ss. NR 400 to 499, Wis. Adm. Code, and requirements contained in air pollution control permits currently held by the company.

SYNTHETIC MINOR PREVENTION OF SIGNIFICANT DETERIORATION (PSD) CLASSIFICATION

The operation permit renewal application included a request from 3M Prairie du Chien to become a synthetic minor prevention of significant deterioration (PSD) source. The potential volatile organic compound emissions from the entire facility including all existing permitted sources, all pre-approved projects and facility changes, and any sources permitted under traditional ch. NR 406, Wis. Adm. Code will be restricted to 249 tons per year, summed over a rolling 12 month period. The appropriate

requirements to allow the facility to become a synthetic minor PSD source will be included in construction permit 11-SJZ-179 and operation permit 612023940-P10. The potential emissions from all other criteria pollutants are less than 100 tons per year and it is not necessary to establish synthetic minor PSD type limits for these pollutants at this time.

Restricting the potential volatile organic compound emissions from the entire facility to less than the major PSD source threshold is one type of restriction identified under U.S. EPA's Flexible Air Permitting Rule. Since the facility will be considered a synthetic minor PSD source upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, the proposed pre-approved changes will be considered a minor New Source Review action. The proposed pre-approved changes will also be considered minor New Source Review actions because all proposed pre-approved changes will be restricted to not including modifications to sources listed in 40 CFR 52.21(b)(1)(i)(a) and s. NR 405.02(22)(a), Wis. Adm. Code.

The synthetic minor PSD limit of 249 tons per year of volatile organic compound emissions is not considered a plant-wide applicability limitation (PAL) under 40 CFR 52.21(aa) because this limit is intended to limit the volatile organic compound emissions from the entire facility and allow the facility to be reclassified as a synthetic minor PSD source. This limit is based on the major PSD threshold of 250 tons per year, not actual emissions. A PAL is an option to restrict emissions to allow the installation of new equipment or the modification of existing equipment at a major PSD source to avoid PSD requirements as long as the PAL is in place.

Section NR 405.18 contains Wisconsin's version of the plant-wide applicability limitation PAL for attainment area major sources. The applicability statement for this rule notes that, "this section applies to any existing major stationary source which wishes to operate under a PAL." A facility that wishes to operate under a PAL must follow the requirements of this chapter, but facilities are under no obligation to use the PAL option. 3M Prairie du Chien did not request a PAL option. However, 3M Prairie du Chien did request to become a synthetic minor PSD source.

Furthermore, the term major stationary source is defined in s. NR 405.02(22)(a)2., as "any stationary source which emits or has the potential to emit 250 tons per year or more of any air contaminant." 3M will become a synthetic minor PSD source under ch. NR 405, Wis. Adm. Code upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, because federally enforceable limits have been established to restrict potential to emit volatile organic compound emissions to ensure that potential to emit emissions are less than 250 tons per year, and 3M is not in any of the source categories listed in s. NR 405.02(22)(a)1. Therefore, the option of using the PAL is not available to this facility because it is not a major stationary source under PSD.

It should also be noted that all PSD related requirements established prior to this review will not change as the result of construction permit 11-SJZ-179 and operation permit 612023940-P10. All previously established PSD related requirements will continue to apply to the facility and will be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

CHANGES TO THE FACILITY SINCE THE ISSUANCE OF OPERATION PERMIT 612023940-P01

Since operation permit 612023940-P01 was issued, the following changes have occurred at the facility.

Combining Building 49 and Building 50 under Facility Identification Number (FID) 612023940

3M operates at two locations in Prairie du Chien, Building 49 located at 405 East Fredrick Street and Building 50 located at 801 North Marquette Road. These locations are adjacent properties. Building 49 has been assigned facility identification number 612040440 and Building 50 has been assigned facility identification number 612023940. 3M has requested that Building 49 and Building 50 be combined under one facility name with one facility identification number. Since operations at both buildings have different Standard Industrial Classification (SIC) codes, have the same North American Industry Classification System (NAICS) code, belong to the same industrial grouping, located on adjacent properties, and controlled by the same responsible official, Building 49 and Building 50 have been combined into one facility with one facility identification number. After the issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, Building 49 and Building 50 will be identified as 3M Prairie du Chien and will have a facility identification number of 612023940. Each building will still be identified as Building 49 and Building 50 for reference purposes. However, both buildings will be included under facility identification number 612023940.

Process B20, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2

Boiler B20 is no longer in operation and has been decommissioned.

Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2
Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3
Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4

Total suspended particulate matter emission limits have been established for Boiler #2 (B21), Boiler #3 (B22), and Boiler #4 (B23) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limits have not been established for prevention of significant deterioration (PSD) purposes. Since operation permit 612023940-P01 was issued to Building 50, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing these limits. Removing the total suspended particulate matter emission limits from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limits will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated for Boiler #2 (B21), Boiler #3 (B22), and Boiler #4 (B23). Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P01, Stack S08 — Non-Woven Pad Manufacturing Line

The Non-Woven Pad Manufacturing Line (P01) is no longer in operation and has been removed from the facility.

Process P02, Stack S01 — Matting Enhancement Tables

The Matting Enhancement Tables (P02) is no longer operating and has been removed from Building 49 and Building 50.

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process

A total suspended particulate matter emission limit has been established for Abrasive Sponge Coating Process (P07) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National

Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Volatile organic compound emissions from the Abrasive Sponge Coating Process (P07) were controlled by thermal oxidizer C01. Thermal oxidizer C01 was located in Building 49. Since this process was installed, the facility reformulated the resins used and the emissions have decreased. Volatile organic compound emissions decreased from 1.1 tons per year to 0.845 tons per year. It was determined in construction permit 03-RAF-318 that controlling volatile organic compound emissions can be achieved by reformulating the resins and using formaldehyde scavengers. As a result, the thermal oxidizer (C01) has been removed and emissions from the Abrasive Sponge Coating Process (P07) are uncontrolled. The removal of the thermal oxidizer (C01) was approved under construction permit 03-RAF-318. Removing the thermal oxidizer (C01) was not subject to any prevention of significant deterioration (PSD) requirements because volatile organic compound emissions decreased as a result of removing the thermal oxidizer and Building 49 was considered a minor PSD source.

The removal of the thermal oxidizer (C01) and reducing formaldehyde (CAS 50-00-0) emissions using reformulated resins and formaldehyde scavengers resulted in an increase in formaldehyde emissions. The Abrasive Sponge Coating Process (P07) emits formaldehyde at a rate that exceeded the ch. NR 445, Wis. Adm. Code threshold established at the time the review for construction permit 03-RAF-318 was done. Best available control technology (BACT) requirements were established under construction permit 03-RAF-318 to meet the requirements in ch. NR 445, Wis. Adm. Code. BACT requirements were also established in construction permits 92-POY-029 and 99-POY-083. The Abrasive Sponge Coating Process (P07) is also subject to a National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) that regulates organic hazardous air pollutants including formaldehyde. According to s. NR 445.01(1)(b), Wis. Adm. Code, the BACT requirements for formaldehyde emissions established under ch. NR 445, Wis. Adm. Code no longer apply since a MACT standard that regulates formaldehyde emissions applies. The facility has requested removing these limits. Removing the BACT requirements will require a construction permit. As a result, replacing the BACT requirements with the MACT standard requirements will be allowed under construction permit 11-SJZ-179. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" section for more details.

The facility has indicated that the Resin Coating Stations (P09 and P10) are sub-components to the Abrasive Sponge Coating Process (P07). As a result, the stacks and emissions from the Resin Coating Stations (P09 and P10) will be included in the emissions from the Abrasive Sponge Coating Process (P07).

Process P09, Stack S06 — Resin Coating Station
Process P10, Stack S07 — Resin Coating Station

The Resin Coating Stations (P09 and P10) are sub-components to the Abrasive Sponge Coating Process (P07). As a result, the stacks and emissions from the Resin Coating Stations (P09 and P10) will be included in the emissions from the Abrasive Sponge Coating Process (P07).

Process P30, Stack S14, Control Device C01 — 22 Maker

The 22 Maker (P30) emits 4,4'-methylenedianiline (and dihydrochloride) (CAS 101-77-9) and formaldehyde (CAS 50-00-0) at a rate that exceeds the ch. NR 445, Wis. Adm. Code threshold. Best available control technology (BACT) requirements were established in construction permit 89-POY-044 to satisfy ch. NR 445, Wis. Adm. Code requirements. The 22 Maker (P30) is also subject to a National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) that regulates organic hazardous air pollutants including formaldehyde and 4,4'-methylenedianiline (and dihydrochloride). According to s. NR 445.01(1)(b), Wis. Adm. Code, the BACT requirements for formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions no longer apply since a MACT standard that regulates formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions applies. The facility has requested removing these limits. Removing these BACT requirements will require a construction permit. As a result, replacing the BACT requirements with the MACT standard requirements will be allowed under construction permit 11-SJZ-179. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" section for more details.

Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker

The 21 Maker (P31) emits formaldehyde (CAS 50-00-0) and 4,4'-methylenedianiline (and dihydrochloride) (CAS 101-77-9) at a rate that exceeds the ch. NR 445, Wis. Adm. Code threshold. Best available control technology (BACT) requirements were established in construction permit 97-POY-102 to satisfy ch. NR 445, Wis. Adm. Code requirements. The 21 Maker (P31) is also subject to a National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) that regulates organic hazardous air pollutants including formaldehyde and 4,4'-methylenedianiline (and dihydrochloride). According to s. NR 445.01(1)(b), Wis. Adm. Code, the BACT requirements for formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions no longer apply since a MACT standard that regulates formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions applies. The facility has requested removing these limits. Removing the BACT requirements will require a construction permit. As a result, replacing the BACT requirements with the MACT standard requirements will be allowed under construction permit 11-SJZ-179. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" section for more details.

Process P32, Stack S16, Control Device C03 — Coiled Web Maker

A total suspended particulate matter emission limit has been established for Coiled Web Maker (P32) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limits will be allowed under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

The Coiled Web Maker (P32) emits di(2-ethylhexyl) phthalate (CAS 117-81-7). Best available control technology (BACT) requirements were established in Consent Order 90-612023940-DLJ-01 to satisfy ch. NR 445, Wis. Adm. Code requirements. The Coiled Web Maker (P32) is also subject to a National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) that regulates organic hazardous air pollutants including for di(2-ethylhexyl) phthalate. According to s. NR 445.01(1)(b), Wis. Adm. Code, the BACT requirements for di(2-ethylhexyl) phthalate emissions no longer apply since a MACT standard that regulates di(2-ethylhexyl) phthalate emissions applies. Although ch. NR 445, Wis. Adm. Code has been revised since these BACT requirements were established, removing the BACT requirements will require a construction permit. The facility has requested removing these limits. As a result, removing the BACT requirements for di(2-ethylhexyl) phthalate with the MACT standard requirements will be accomplished under construction permit 11-SJZ-179. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" section for more details.

Process P33, Stack S28, Control Device C05 — Raw Material Mixing for the Coiled Web Maker (P32)

The Raw Material Mixing for the Coiled Web Maker (P33) is no longer operating and has been removed from the facility.

Process P40, Stack S260 — Columbia Press

The Columbia Press (P40) is limited to operating 400 hours per month, averaged over any 12 rolling months. The current LACT and the 400 hour per month limit have been combined and revised as part of the review for construction permit 11-SJZ-179 and operation permit 612023940-P10. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P44, Stack S34, Control Device C11 — Safety Walk Maker

A total suspended particulate matter emission limit has been established for Safety Walk Maker (P44) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P45, Stack S36, Control Device C06 — Mineral Handling Area

A total suspended particulate matter emission limit has been established for Mineral Handling Area (P45) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit.

As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P48, Stack S40, Control Device C04 — Coiled Web Scrap Grinder
The Coiled Web Scrap Grinder (P48) is no longer operating and has been removed from the facility.

Process P50, Stack S42, Control Device C07 — Thinsulate Maker
A total suspended particulate matter emission limit has been established for Thinsulate Maker (P50) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

The facility has indicated that the pressure drop across the fabric roll filters collector is incorrect. The normal pressure drop range across the Two Stage Roll Filter System (C07) is less than 1.0 inch of water column, not greater than 1.0 inch of water column. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning
A total suspended particulate matter emission limit has been established for Salt Bath Parts Cleaning (P52) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

The facility is required to measure the pressure drop across the venturi scrubber (C09) once per batch. Because the Salt Bath Parts Cleaning (P52) is a batch process, the time to process each batch varies, the process does not operate every shift, the operation of this process is completely random, and to satisfy the requirements in s. NR 439.055(2)(b), Wis. Adm. Code, monitoring and recording the pressure drop has been changed to once per batch or once every 8 hours of operation, whichever yields more measurements. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

The facility is required to measure the pH of the scrubber fluid once every 15 minutes of operation for the Salt Bath Parts Cleaning (P52). The facility has indicated that this process is a batch process. A batch may take less than 15 minutes to process. The facility has requested that the pH be measured once per batch. Since the operation is a batch process and the processing time for each batch is less than 15 minutes, measuring the pH has been changed to once per batch. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P54, Stack S54 — Belt Making Area

The facility has conducted a Latest Available Control Techniques (LACT) analysis and has determined that it is no longer feasible to control volatile organic compound emissions by 85%. The Belt Making Area (P54) is now subject to LACT. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P55, Stack S14, Control Device C01 — 24CC Maker

The coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents were established in construction permit 98-POY-037 to restrict volatile organic compound emissions to 39 tons per year and allow the installation of the 24CC Maker (P55) to be considered a minor modification to a major prevention of significant deterioration (PSD) source. Using the required 85 percent control efficiency, the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents equate to an emission rate of 39 tons per year. To further allow the use of water based coatings and to ensure that the installation of the 24CC Maker remains a minor modification to a major prevention of significant deterioration (PSD) source, the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents have been replaced with an equivalent volatile organic compound emission limit of 39 tons per year. Replacing the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents with an identical volatile organic compound emission limit of 39 tons per year does not change the PSD classification that the installation of the 24CC Maker (P55) is considered a minor modification to a major PSD source. The volatile organic compound limit of 39 tons per year will ensure that the installation of the 24CC Maker remains a minor modification to a major PSD source. Using the control efficiency of 85%, the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents equate to a volatile organic compound emission rate of 39 tons per year. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

The facility has requested to change the operating combustion temperature of the regenerative thermal oxidizer (C01) from 1,500 degrees Fahrenheit to 1,457 degrees Fahrenheit, which is the average operating combustion temperature measured during the last stack test done on October 3, 2007. Since the facility was able to demonstrate compliance with the volatile organic compound emission limits with a combustion temperature of 1,457 degrees Fahrenheit and to be consistent with the operating combustion temperature for the regenerative thermal oxidizer (C01) established under construction permit 06-POY-091, the minimum combustion temperature has been changed. Additional language has been added to allow the thermal oxidizer to operate at a combustion temperature measured during the most recent stack test to avoid the need for an operation permit revision after each stack test to update the temperature.

<u>Before Change:</u>

I.S.1.b.(3) The operating combustion temperature of thermal oxidizer shall be at least 1500 degrees Fahrenheit, based on an average over any 30 consecutive minutes. **[s. NR 424.03(2), Wis. Adm. Code]**

After Change:

I.O.1.b.(2) **Combustion Temperature:** The operating combustion temperature of the regenerative thermal oxidizer (C01) shall be at least 1,457 degrees Fahrenheit **Or** the operating temperature measured during the most recent stack test that demonstrated compliance **Based on:** an average over any 3-hour period. [s. NR 424.03(2)(b), Wis. Adm. Code, 40 CFR 63.3321(a), 40 CFR Part 63 Table 1, permits 11-SJZ-179 and 612023940-P10]

Thermal oxidizer C02 is no longer in operation and has been decommissioned. Emissions from the 24CC Maker (P55) are now controlled by Regenerative Thermal Oxidizer C01.

Process P56, Stacks S14, S240, S250, Control Device C01 — 25 Maker

The 25 Maker (P56) emits 4,4'-methylenedianiline (and dihydrochloride) (CAS 101-77-9) and formaldehyde (CAS 50-00-0) at a rate that exceeds the ch. NR 445, Wis. Adm. Code threshold. Best available control technology (BACT) requirements were established in construction permit 01-POY-017 to satisfy ch. NR 445, Wis. Adm. Code requirements. The 25 Maker (P56) is also subject to a National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) that regulates organic hazardous air pollutants including formaldehyde and 4,4'-methylenedianiline (and dihydrochloride). According to s. NR 445.01(1)(b), Wis. Adm. Code, the BACT requirements for formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions no longer apply since a MACT standard that regulates formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions applies. The facility has requested removing these limits. Removing these limits will require a construction permit. As a result, removing the BACT requirements for formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) will be granted under construction permit 11-SJZ-179. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" section for more details.

Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area

A total suspended particulate matter emission limit has been established for the Mineral Coating For 21 Maker Area (P64) to satisfy the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter (TSP). The total suspended particulate matter emission limit has not been established for prevention of significant deterioration (PSD) purposes. Since this limit was established, the National Ambient Air Quality Standard for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code has been removed and is no longer a standard. The facility has requested removing this limit. Removing the total suspended particulate matter emission limit from the operation permit will require a construction permit. As a result, the removal of the total suspended particulate matter emission limit will be granted under construction permit 11-SJZ-179. The particulate matter and PM10 emission limits have been updated. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more information.

Process P270, Stack S270 — Post Cure Oven

The facility has indicated that the Post Cure Oven (P270) only processes material generated from the Columbia Press (P40) and does not process material generated from any other process. Since the Post Cure Oven (P270) only processes material generated from the Columbia Press (P40), volatile organic compound emissions are not required to be controlled by the Regenerative Thermal Oxidizer C01 as

determined in the review for construction permit 06-POY-091. To allow the Post Cure Oven (P270) to operate uncontrolled, the Post Cure Oven (P270) will be restricted to processing materials generated from the Columbia Press (P40) only. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more details.

Process P271, Stack S271 — 285 kW Emergency Diesel Generator

Emergency Diesel Generator (P271) is an emergency generator located outside Building 50. Emergency Diesel Generator (P271) is subject to the National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Stationary Reciprocating Internal Combustion Engines (RICE) in 40 CFR Part 63 Subpart ZZZZ (63.6580-63.6675) and has been included in construction permit 11-SJZ-179 and operation permit 612023940-P10. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" and "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" sections for more information about the applicable requirements.

Corona Treater (Insignificant Emission Unit (I6))

The facility submitted a construction permit exemption request on July 20, 2009, with the intention to install a Corona Treater (I6) in Building 50. The installation of the Corona Treater (I6) is exempt from a construction permit, per s. NR 406.04(2)(c), Wis. Adm. Code. This determination was made as part of the review for operation permit 612023940-P10. As a result, a construction permit exemption was not issued for the installation of the Corona Treater (I6). The Corona Treater (I6) is an insignificant source. Please refer to the "Insignificant Emissions Units" section for more information.

PERMITS ISSUED TO THE FACILITY

Building 49 (FID 612040440)

Building 49 was issued the permits 92-POY-029, 98-POY-105, 99-POY-083, 03-RAF-318, 05-RAF-200-EXM, 08-MEO-045-EXM, and 08-SJZ-231-EXM. A Title V operation permit was never issued to Building 49.

<u>Construction Permit 92-POY-029</u>

Construction permit 92-POY-029 was issued on April 24, 1992, and approved the installation of two identical Non-Woven Pad Manufacturing Processing Lines (P01) in Building 49.

<u>Construction Permit 98-POY-105</u>

Construction permit 98-POY-105 was issued on September 15, 1998, and approved the installation of six matting enhancement tables (P02) in Building 49 and three matting enhancement tables (P02) in Building 50.

<u>Construction Permit 99-POY-083</u>

Construction permit 99-POY-083 was issued on September 13, 1999, and approved the installation of Abrasive Sponge Coating (P07), Mineral Coating Operation (P08), and Two Coating Stations (P09, P10).[1]

<u>Construction Permit 03-RAF-318</u>

[1] Resin Coating Stations P09 and P10 are subcomponents and are included in the Abrasive Sponge Coating Process (P07).

Construction permit 03-RAF-318 was issued on June 4, 2004, and approved the modification of the Non-Woven Pad Manufacturing Line (P01) and Abrasive Sponge Coating (P07). This modification included the reduction in volatile organic compound emissions to be accomplished through the reformulation of the resin and with the addition of a scavenger, rather than reduction by thermal oxidation. As a result, the thermal oxidizer (C01) was no longer required to control emissions from the Woven Pad Manufacturing Line (P01) and Abrasive Sponge Coating (P07).

Since construction permit 03-RAF-318 was issued, the Non-Woven Pad Manufacturing Line (P01) is no longer in operation and has been removed from the facility.

The operation permit to construction permit 03-RAF-318 (03-RAF-318-OP) was noticed to the public with construction permit 03-RAF-318 but was never issued. Operation permit 03-RAF-318-OP will be issued with the issuance of operation permit 612023940-P10.

Construction Permit Exemption 05-RAF-200-EXM

Construction permit exemption 05-RAF-200-EXM was issued on July 7, 2005, and determined that the installation of a Sanding Cloth Line (P68) was exempt from construction permit requirements. The Sanding Cloth Line (P68) was exempt because the maximum volatile organic compound emissions would be less than 5.7 pounds per hour, state hazardous air pollutant emissions would be less than threshold values in ch. NR 445, Wis. Adm. Code, the process is not subject to a new source performance standard NSPS) or a maximum achievable control technology (MACT) standard, and the proposed construction is not prohibited by any permit, plan approval or special order, per s. NR 406.04(2), Wis. Adm. Code.

Construction Permit Exemption 08-MEO-045-EXM

Construction permit exemption 08-MEO-045-EXM was issued on February 15, 2008, and determined that the installation of the Urethane (MDI) Sponge Coating Process (P66) was exempt from construction permit requirements. The Urethane (MDI) Sponge Coating Process (P66) was exempt because maximum theoretical volatile organic compound emissions are less than 5.7 pounds per hour and the maximum theoretical hazardous air pollutant emissions are less than the corresponding ch. NR 445, Wis. Adm. Code, Table A thresholds.

Construction Permit Exemption 08-SJZ-231-EXM

Construction permit exemption 08-SJZ-231-EXM was issued on October 1, 2008, and determined that the installation of the 27 Maker Coral Line (P67) was exempt from construction permit requirements. The 27 Maker Coral Line (P67) was exempt because the maximum theoretical volatile organic compound emissions are less than 1,666 pounds per month, per s. NR 406.04(1)(g) Wis. Adm. Code. Please note that when the review for construction permit exemption 08-SJZ-231-EXM was done, Building 49 was considered a minor source for federal hazardous air pollutants so the 27 Maker Coral Line (P67) was not subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). Now that Building 49 and Building 50 will become one facility and a major source for federal hazardous air pollutants upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, all process lines in Building 49 will now be operated at a major source for federal hazardous air pollutants and the 27 Maker Coral Line (P67) will be subject to the Paper and Other Web Coating Operations MACT standard.

Operation Permit 612023940-P10

Since Building 49 and Building 50 will be combined into one facility upon the issuance of operation permit 612023940-P10 and Building 49 has never been issued an operation permit, previous permits issued to Building 49 will be included in this review. Operation permit 612023940-P10 will adopt permits 98-POY-105, 99-POY-083, 03-RAF-318, 03-RAF-318-OP, 05-RAF-200-EXM, 08-MEO-045-EXM, and 08-SJZ-231-EXM upon issuance.

Building 50 (FID 612023940)

Since operation permit 612023940-P01 was issued, Building 50 was issued permits 01-POY-017-OP, 06-POY-091, 06-RAF-199-EXM, and 09-MHR-142. The purpose of these permits is explained below.

Construction Permit 01-POY-017

Construction permit 01-POY-017 was issued on July 30, 2001, and approved the installation of 25 Maker (P56). This construction permit was not adopted by operation permit 612023940-P01. As a result, construction permit 01-POY-017 will be adopted by operation permit 612023940-P10 upon issuance.

Operation Permit 01-POY-017-OP

Operation permit 01-POY-017-OP was issued on January 10, 2005. This permit is the operation permit for construction permit 01-POY-017 and included the operation requirements for the 25 Maker (P56).

Construction Permit 06-POY-091

Construction permit 06-POY-091 was issued on June 14, 2006, and included the modification of 21 Maker (P31), 25 Maker (P56), Electric Post Cure Oven (P270), and Columbia Press (P40).

Operation Permit 06-POY-091-OP

The operation permit to construction permit 06-POY-091 (06-POY-091-OP) was noticed to the public with construction permit 06-POY-091 but was never issued. Operation permit 06-POY-091-OP will be issued with the issuance of operation permit 612023940-P10.

Operation Permit Revision 612023940-P02

Operation permit revision 612023940-P02 was noticed to the public with construction permit 06-POY-091 but was never issued. Operation permit revision 612023940-P02 will be issued with the issuance of operation permit 612023940-P10.

Construction Permit Exemption 06-RAF-199-EXM

Construction permit exemption 06-RAF-199-EXM was issued on July 28, 2006. This permit determined that the installation of 26 Maker (P65) including the three natural gas fired ovens was exempt from construction permit requirements. The 26 Maker (P65) was exempt because the 3 natural gas fired ovens are rated at 1.65 million Btu per hour heat input for each, there are no emissions from the materials being heat treated by the ovens, the ovens only burn fossil fuel, and the ovens have a heat input capacity of less than 25 million Btu per hour, per s. NR 406.04(1)(a)5, Wis. Adm. Code.

Construction Permit 09-MHR-142

Construction permit 09-MHR-142 was issued on February 2, 2010, and approved the modification of Boiler B23. The modification included the burner replacement on #4 Boiler B23.

Construction Permit Exemption 12-SJZ-120-EXM

Construction permit exemption 12-SJZ-120-EXM was issued on August 27, 2012, and determined that the installation of Thinsulate Maker (P69) was exempt from construction permit requirements. The

Thinsulate Maker (P69) was exempt because the installation was not prohibited by any permit, plan approval or special order applicable to the source, the maximum theoretical emissions are less than the exemption thresholds in s. NR 406.04(2)(c), (cm), (cs), and (f), Wis. Adm. Code, and this process is not subject to an emission standard under section 111 or 112 of the Clean Air Act.

Operation Permit 612023940-P10

Operation permit 612023940-P10 will adopt permits 01-POY-017, 01-POY-017-OP, 06-POY-091, 06-POY-091-OP, 612023940-P02, 06-RAF-199-EXM, 09-MHR-142, and 12-SJZ-120-EXM upon issuance.

Building 49 and Building 50 (FID 612023940)

Construction Permit 11-SJZ-179 and Operation Permit 612023940-P10

Construction permit 11-SJZ-179 and operation permit 612023940-P10 is a permit being issued as a result the Participation Contract between 3M Prairie du Chien and the DNR. Construction permit 11-SJZ-179 and operation permit 612023940-P10 will pre-approve the installation and/or modification of process lines upon issuance.

Operation Permit 612023940-P10

Operation permit 612023940-P10 will adopt permits 90-POY-165, 98-DCF-037-EXM, 98-POY-105, 99-POY-083, 603007680-P01, 01-POY-017, 01-POY-017-OP, 03-RAF-318, 03-RAF-318-OP, 05-RAF-200-EXM, 06-POY-091, 06-POY-091-OP, 612023940-P02, 06-RAF-199-EXM, 08-MEO-045-EXM, 08-SJZ-231-EXM, 09-MHR-142, and 12-SJZ-120-EXM upon issuance.

Environmental Assessment (EA)

The potential emissions (after controls) of carbon monoxide, oxides of nitrogen, particulate matter, sulfur dioxide, volatile organic compounds, lead, or lead compounds from the modification of an existing web coating line or surface coating process, construction or installation of a new web coating line, construction or installation of a new plastic or metal parts surface coating process, subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit, installation of a new or modification of an existing semi-finished web processing equipment, installation of a new or modification of an existing air pollution control device, and R&D/Pilot/Development Projects listed in Part III.A. of construction permit 11-SJZ-179 and operation permit 612023940-P10 are limited to less than 100 tons per year. Because potential to emit emissions (after controls) are limited to less than 100 tons per year for carbon monoxide, oxides of nitrogen, particulate matter, sulfur dioxide, volatile organic compounds, lead, or lead compounds, an environmental assessment is not required under sections NR 150.03(8)(b)1. and NR 150.20(1), Wis. Adm. Code.

The emission limit of less than 100 tons per year for carbon monoxide, oxides of nitrogen, particulate matter, sulfur dioxide, volatile organic compounds, lead, or lead compounds applies to each pre-approved project except for R&D/Pilot/Development Projects. For R&D/Pilot/Development Projects, emissions for each criteria pollutant shall be limited to less than 100 tons per year for all R&D/Pilot/Development Projects combined.

Significant Emissions Units

1. Process B21 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	B21
Unit description:	Industrial Boiler #2 This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	12.6
Date of construction or last modification:	Installed 1967
Construction Permit Requirements:	None. Installed prior to 1980.

a. Process B21 — Process Fuel Information.

Fuel Parameter	Primary Fuel	Backup Fuel #1
Fuel Name:	Natural Gas	#2 Fuel Oil
Higher Heating Value:	1,000 Btu/ft^3	140,000 Btu/gal
Maximum Sulfur Content (weight %):	0	1.0
Maximum Ash Content (weight %):	0	0
Maximum hourly consumption:	12,600 ft^3/hr	90 gal/hr

b. Stack S11 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S11	Exhaust flow rate, normal (ACFM):	4,000
Exhausting Unit(s):	B21	Exhaust gas temperature, normal (^{o}F):	450
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	43.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.3 ft.		

2. Process B22 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	B22
Unit description:	Industrial Boiler #3 This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	16.7
Date of construction or last modification:	Installed 1971
Construction Permit Requirements:	None. Installed prior to 1980.

a. Process B22 — Process Fuel Information.

Fuel Parameter	Primary Fuel	Backup Fuel #1
Fuel Name:	Natural Gas	#2 Fuel Oil
Higher Heating Value:	1,000 Btu/ft^3	140,000 Btu/gal
Maximum Sulfur Content (weight %):	0	1.0
Maximum Ash Content (weight %):	0	0
Maximum hourly consumption:	16,700 ft^3/hr	119 gal/hr

b. Stack S13 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S13	Exhaust flow rate, normal (ACFM):	4,000
Exhausting Unit(s):	B22	Exhaust gas temperature, normal (^{o}F):	450
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	42.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.3 ft.		

3. Process B23 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	B23
Unit description:	Industrial Boiler #4 This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	22.1
Date of construction or last modification:	Installed 1973, Modified 2006
Construction Permit Requirements:	09-MHR-142

a. Process B23 — Process Fuel Information.

Fuel Parameter	Primary Fuel	Backup Fuel #1
Fuel Name:	Natural Gas	#2 Fuel Oil
Higher Heating Value:	1,000 Btu/ft^3	140,000 Btu/gal
Maximum Sulfur Content (weight %):	0	1.0
Maximum Ash Content (weight %):	0	0
Maximum hourly consumption:	21,100 ft^3/hr	158 gal/hr

b. Stack S15 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S15	Exhaust flow rate, normal (ACFM):	7,000
Exhausting Unit(s):	B23	Exhaust gas temperature, normal (^{o}F):	450
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	43.0 ft.	Stack equipped with any obstruction:	No

b. Stack S15 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Inside dimensions at outlet (ft):	2.7 ft.		

4. Process P07 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P07
Unit description:	Abrasive Sponge Coating Process The Abrasive Sponge Coating Process (P07) uses reformulated resins to produce abrasive sponge pads and blocks and includes two resin coating stations (stack S06 and S07). Abrasive material is mixed with water to create the coating. The coating is applied wet and is not sprayed. This process uses six natural gas fired process ovens. The total heat input of the ovens is 4.5 million Btu per hour. This process is located in Building 49.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1999, Last Modified 2003
Construction Permit Requirements:	03-RAF-318

a. Stack S06 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S06	Exhaust flow rate, normal (ACFM):	1,000
Exhausting Unit(s):	P07	Exhaust gas temperature, normal (^{o}F):	70
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	35.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.0 ft.		

b. Stack S07 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S07	Exhaust flow rate, normal (ACFM):	1,000
Exhausting Unit(s):	P07	Exhaust gas temperature, normal (^{o}F):	70
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	35.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.0 ft.		

c. Stack S09 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S09	Exhaust flow rate, normal (ACFM):	4,800
Exhausting Unit(s):	P07	Exhaust gas temperature, normal (^{o}F):	200
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	41.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.25 ft.		

5. Process P30 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P30
Unit description:	22 Maker The 22 Maker produces a variety of surface conditioning products utilizing several coating methods. The 22 Maker oven has a maximum heat input of 2 million Btu per hour. This process is located in Building 50.
Control technology status:	Controlled, C01
Maximum continuous rating (MMBtu/hr):	None

5. Process P30 — Emission Unit Information.

Process Parameter	Description
Date of construction or last modification:	Installed 1970, Last Modified 1989
Construction Permit Requirements:	89-POY-044

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S14	Exhaust flow rate, normal (ACFM):	110,000
Exhausting Unit(s):	P30, P31, P36, P55, P56	Exhaust gas temperature, normal (^{o}F):	175
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	69.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	8.3 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C01
Unit Description:	Regenerative Thermal Oxidizer
Maximum continuous rating (MMBtu/hr):	35
Control Efficiency:	90% (Volatile Organic Compounds)

6. Process P31 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P31
Unit description:	21 Maker The 21 Maker produces a variety of surface conditioning products utilizing several coating methods. The total heat input of the 21 Maker ovens is 18 million Btu per hour. This process is located in Building 50.
Control technology status:	Controlled, C01

6. Process P31 — Emission Unit Information.

Process Parameter	Description
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1997, Last Modified 2006
Construction Permit Requirements:	06-POY-091

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S14	Exhaust flow rate, normal (ACFM):	110,000
Exhausting Unit(s):	P30, P31, P36, P55, P56	Exhaust gas temperature, normal (^{o}F):	175
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	69.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	8.3 ft.		

b. Stack S200 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S200	Exhaust flow rate, normal (ACFM):	15,000
Exhausting Unit(s):	P31	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	3.5 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	54.3 ft.		

c. Stack S210 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S210	Exhaust flow rate, normal (ACFM):	13,000
Exhausting Unit(s):	P31	Exhaust gas temperature, normal	200-290

c. Stack S210 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
		(^{o}F):	
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	51.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

d. Stack S220 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S220	Exhaust flow rate, normal (ACFM):	13,000
Exhausting Unit(s):	P31	Exhaust gas temperature, normal (^{o}F):	200-290
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	51.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

e. Stack S230 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S230	Exhaust flow rate, normal (ACFM):	4,000
Exhausting Unit(s):	P31	Exhaust gas temperature, normal (^{o}F):	300-320
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	48.2 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.33 ft.		

f. Control Device Information.

Properties	Description
Control Device Number:	C01

f. Control Device Information.

Properties	Description
Unit Description:	Regenerative Thermal Oxidizer
Maximum continuous rating (MMBtu/hr):	35
Control Efficiency:	90% (Volatile Organic Compounds)

7. Process P32 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/number:	P32
Unit description:	Coiled Web Maker The Coiled Web Maker (P32) produces traction enhancing products using a coating operation and a miscellaneous process. The Coiled Web Maker utilizes both extrusion and coating technologies. This process is located in Building 50.
Control technology status:	Controlled, C03
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1990
Construction Permit Requirements:	Consent Order 90-612023940-DLJ-01

a. Stack S16 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S16	Exhaust flow rate, normal (ACFM):	41,100
Exhausting Unit(s):	P32	Exhaust gas temperature, normal (^{o}F):	100
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	62.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.5 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C03
Unit Description:	Two Wet Electrostatic Precipitators
Control Efficiency:	78% (hazardous air pollutants)

8. Process P36 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P36
Unit description:	Pigment Mill Mix Area The Pigment Mill and Mixing Process (P36) is a batch process that manufactures small volumes of coatings and manufactures portions of coatings. This process includes the pigment mill itself, three mix tanks, and a Hi-Shear mix station. The pigment mill is used to reduce the particle size in pigment premixes. Each tank is used to make different types of mixes. The Hi-Shear mix station has a Hi-Shear mixer blade that can be used to make mixes in a single barrel. Some of the coatings made from this process are shipped off-site and some are used within the plant. The volatile organic compound and hazardous air pollutant emissions from these sources are routed to the existing regenerative thermal oxidizer (C01) and the particulate emissions from the pigment mill and the Hi-Shear mix station are vented to a small baghouse. Maximum particulate matter emissions are less than the significance threshold in ch. NR 407, Wis. Adm. Code. As a result, this process is insignificant for particulate matter emissions. This process is located in Building 50.
Control technology status:	Controlled, C01
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1986
Construction Permit Requirements:	None, exempt

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S14	Exhaust flow rate, normal (ACFM):	110,000

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Exhausting Unit(s):	P30, P31, P36, P55, P56	Exhaust gas temperature, normal (^{o}F):	175
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	69.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	8.3 ft.		

b. Control Device Information.

Properties	Description
Unit Description:	Baghouse Since the Pigment Mill Mix Area (P36) is insignificant for particulate matter emissions, the baghouse has not been assigned a control device identification number.
Control Efficiency:	99% (Particulate Matter)

c. Control Device Information.

Properties	Description
Control Device Number:	C01
Unit Description:	Regenerative Thermal Oxidizer
Maximum continuous rating (MMBtu/hr):	35
Control Efficiency:	90% (Volatile Organic Compounds)

9. Process P40 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P40
Unit description:	Columbia Press The Columbia Press cuts, presses and shapes products from the 21 Maker (P31) and 25 Maker (P56). Volatile organic compounds are present in the products generated by the makers. Volatile organic compounds emissions from the Columbia Press are generated as a result of the cutting and

9. Process P40 — Emission Unit Information.

Process Parameter	Description
	pressing of these products. No volatile organic compounds are added at the process. This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Last Modified 2006
Construction Permit Requirements:	06-POY-091

a. Stack S260 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S260	Exhaust flow rate, normal (ACFM):	6,000
Exhausting Unit(s):	P40	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	45.6 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.33 ft		

10. Process P44 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P44
Unit description:	Safety Walk Maker The material made by the Safety Walk Maker is made from a mixture of rubber pellets and resin pellets that are extruded as a mixture and applied on a coating line to create a nonslip tread with a paper liner. This process is located in Building 50.
Control technology status:	Controlled, C11
Maximum continuous rating (MMBtu/hr):	Not Applicable

10. Process P44 — Emission Unit Information.

Process Parameter	Description
Date of construction or last modification:	Installed 1980
Construction Permit Requirements:	None, exempt

a. Stack S34 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S34	Exhaust flow rate, normal (ACFM):	2,200
Exhausting Unit(s):	P44	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Horizontal
Discharge height above ground level (ft):	38.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	0.8 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C11
Unit Description:	Baghouse
Control Efficiency:	99% (Particulate Matter)

11. Process P45 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P45
Unit description:	Mineral Handling Area This process is located in Building 50.
Control technology status:	Controlled, C06
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last	Installed 1979

11. Process P45 — Emission Unit Information.

Process Parameter	Description
modification:	
Construction Permit Requirements:	None. Installed prior to 1980.

a. Stack S36 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S36	Exhaust flow rate, normal (ACFM):	3,500
Exhausting Unit(s):	P45	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Horizontal
Discharge height above ground level (ft):	23.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.0 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C06
Unit Description:	Baghouse
Control Efficiency:	99% (particulate matter)

12. Process P50 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P50
Unit description:	Thinsulate Maker This process produces non-woven thermal insulation material and is located in Building 50.
Control technology status:	Controlled, C07
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last	Installed 1991

12. Process P50 — Emission Unit Information.

Process Parameter	Description
modification:	
Construction Permit Requirements:	None, exempt

a. Stack S42 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S42	Exhaust flow rate, normal (ACFM):	2,000
Exhausting Unit(s):	P50	Exhaust gas temperature, normal (^{o}F):	70
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	41.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C07
Unit Description:	Two Stage Roll Filter System Exhaust air from the process is filtered through two roll filters. Each filter is in the direct air stream. The first is 100% polyester fibers. The second is a media of continuous filament fiber glass. Each is also coated with viscosine adhesive.
Control Efficiency:	90% (Particulate Matter)

13. Process P52 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P52
Unit description:	Salt Bath Parts Cleaning: The Salt Bath Parts Cleaning (P52) utilizes a high temperature molten salt solution for cleaning a variety of process equipment. The salt bath removes vinyl, nylon, and/or polyester resins from metal parts. The entire process consists

13. Process P52 — Emission Unit Information.

Process Parameter	Description
	of a series of tanks into which the metal parts are dipped sequentially. The principal cleaning occurs in the first tank, a bath of molten salt. Resins are removed from metal parts in the bath of molten salt. Some gaseous products and a small amount of liquefied resins will undergo combustion at the surface of the molten salt. A metal part being cleaned typically remains in the tank of molten salt for less than 20 minutes. The combustion at the surface of the salt occurs for only a fraction of this period. After the salt bath, the metal parts are rinsed with cold water, and then an aqueous organic acid solution, and finally rinsed by cold water again. This salt bath assembly is equipped with a two-stage scrubber system. The first stage is a spray chamber to remove any hydrogen chloride emissions and the second stage is a venturi scrubber to remove particulate matter emissions. The salt bath is vented to a stack S46. This process is located in Building 50.
Control technology status:	Controlled, C09
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1991
Construction Permit Requirements:	91-POY-102

a. Stack S46 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S46	Exhaust flow rate, normal (ACFM):	13,300
Exhausting Unit(s):	P52	Exhaust gas temperature, normal (^{o}F):	75
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	57.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.5 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C09

b. Control Device Information.

Properties	Description
Unit Description:	Two-Stage Scrubber System The first stage of the scrubber system is a spray chamber that controls hydrogen chloride emissions. The second stage is a venturi scrubber that controls particulate matter emissions.
Control Efficiency:	86% (particulate matter) 90% (hydrogen chloride)

14. Process P54 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P54
Unit description:	Belt Making Area The Belt Making Area (P54) involves coating two ends of a fabric material with glue and attaching the ends to make an abrasive belt. The gluing and attaching process is done at ambient temperature and without the use of an oven or dryer. This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1992
Construction Permit Requirements:	92-RV-152

a. Stack S54 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S54	Exhaust flow rate, normal (ACFM):	3,260
Exhausting Unit(s):	P54	Exhaust gas temperature, normal (^{o}F):	Ambient
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	40 ft.	Stack equipped with any obstruction:	No

a. Stack S54 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Inside dimensions at outlet (ft):	1.0 ft. x 1.3 ft.		

15. Process P55 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P55
Unit description:	24CC Maker The 24CC Maker coats a solvent or a solvent/mineral mixture onto separate fiber nylon sheets that are approximately two feet by three feet. The nylon sheets are coated using a roll coat application without the use of an unwinder and rewinder. The roll coating process is enclosed and the emissions are controlled by a thermal oxidizer (C01). The solvent coated sheets are then sent through a solvent removal oven for curing purposes. The solvent removal oven is rated at 5 million Btu per hour. The coating on the finished product is a solvent mixture of resins and minerals. The material produced by this maker is further processed to make abrasive products at the facility. This process is located in Building 50.
Control technology status:	Controlled, C01
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 1998
Construction Permit Requirements:	98-POY-037

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S14	Exhaust flow rate, normal (ACFM):	110,000
Exhausting Unit(s):	P30, P31, P36, P55, P56	Exhaust gas temperature, normal (^{o}F):	175
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	69.0 ft.	Stack equipped with any obstruction:	No

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Inside dimensions at outlet (ft):	8.3 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C01
Unit Description:	Regenerative Thermal Oxidizer
Maximum continuous rating (MMBtu/hr):	35
Control Efficiency:	90% (Volatile Organic Compounds)

16. Process P56 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P56
Unit description:	25 Maker A variety of operations are performed on the 25 Maker, all of which produce material for use in subsequent making and converting processes to produce finished products. The 25 Maker produces material that is converted into Floor Pads, Hand Pads, Industrial Products, Filtration Products, and Personal Care Products. In general, products begin with raw fiber that is formed into a 'non-woven' web that is then coated using various types of coatings, and coating processes that are then cured in ovens to achieve a non-woven abrasive material that is in jumbo form. The cure ovens have a total heat input of 25 million Btu per hour. This process is located in Building 50.
Control technology status:	Controlled, C01
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 2001, Last Modified 2006
Construction Permit Requirements:	06-POY-091

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description

a. Stack S14 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S14	Exhaust flow rate, normal (ACFM):	110,000
Exhausting Unit(s):	P30, P31, P36, P55, P56	Exhaust gas temperature, normal (^{o}F):	175
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	69.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	8.3 ft.		

b. Stack S240 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S240	Exhaust flow rate, normal (ACFM):	10,000
Exhausting Unit(s):	P56	Exhaust gas temperature, normal (^{o}F):	200-290
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	50.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

c. Stack S250 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S250	Exhaust flow rate, normal (ACFM):	10,000
Exhausting Unit(s):	P56	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	50.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

d. Control Device Information.

Properties	Description
Control Device Number:	C01
Unit Description:	Regenerative Thermal Oxidizer
Maximum continuous rating (MMBtu/hr):	35
Control Efficiency:	90% (Volatile Organic Compounds)

17. Process P64 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P64
Unit description:	Mineral Coating This process is the unloading area for raw mineral that is used in the Makers during the coating process. This process is located in Building 50.
Control technology status:	Controlled, C04
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	1972
Construction Permit Requirements:	None. Installed prior to 1980.

a. Stack S44 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S44	Exhaust flow rate, normal (ACFM):	25,000
Exhausting Unit(s):	P64	Exhaust gas temperature, normal (^{o}F):	80
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	10.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	4.0 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C04
Unit Description:	Cyclone The material collected in cyclone C04 is considered product and is returned back to the process.
Control Efficiency:	80% (Particulate Matter)

18. Process P65 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P65
Unit description:	26 Maker (Easy Trap) The 26 Maker consists of a coating line with 3 natural gas fired ovens. The total heat input of the ovens is 1.65 million Btu per hour. The 26 Maker uses purchased fiber and adhesive to produce a dusting cloth (not considered an abrasive product or pressure sensitive tape). The maker coats one side of a sheet of the fabric material made from the purchased fiber and laminates it to another sheet of the fabric material. The adhesive contains less than 1 percent non-carcinogenic organic hazardous air pollutants. This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 2006
Construction Permit Requirements:	None, exempt (06-RAF-199-EXM)

a. Stack S45 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S45	Exhaust flow rate, normal (ACFM):	250
Exhausting Unit(s):	P65	Exhaust gas temperature, normal (^{o}F):	1,800

a. Stack S45 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	53.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.0 ft.		

b. Stack S45A — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S45A	Exhaust flow rate, normal (ACFM):	250
Exhausting Unit(s):	P65	Exhaust gas temperature, normal (^{o}F):	1,800
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	51.7 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.6 ft.		

c. Stack S46B — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S46B	Exhaust flow rate, normal (ACFM):	250
Exhausting Unit(s):	P65	Exhaust gas temperature, normal (^{o}F):	1,800
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	51.7 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.6 ft.		

d. Stack S46C — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S46C	Exhaust flow rate, normal (ACFM):	250
Exhausting Unit(s):	P65	Exhaust gas temperature, normal	1,800

d. Stack S46C — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
		(^{o}F):	
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	43.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.6 ft.		

19. Process P66 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P66
Unit description:	Urethane (MDI) Sponge Coating Process Polyurethane foam is produced and coated using a make adhesive, mineral coating, along with a size coating. It is cured in ovens where it is then cut into the desired length blocks for packaging. The type of polyurethane foam produced by the Urethane (MDI) Sponge Coating Process (P66) is a molded flexible polyurethane foam. This process is located in Building 49.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 2008
Construction Permit Requirements:	None, exempt (08-MEO-045)

a. Stack S49 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S49	Exhaust flow rate, normal (ACFM):	443
Exhausting Unit(s):	P66	Exhaust gas temperature, normal (^{o}F):	Ambient
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up

a. Stack S49 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Discharge height above ground level (ft):	41.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.25 ft.		

20. Process P67 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P67
Unit description:	27 Maker Coral Line The 27 Maker Coral Line is an epoxy-based web coating line. The coral line equipment includes a Mineral/Resin Platen, a Flexo Printer with Infrared (IR) Oven, a Primer Platen, a Make Applicator, a Grit & Size Applicator, and a dust collector (baghouse) to control particulates that may settle out in the coating enclosures from the Make Applicator and the Grit and Size Applicator. This process is located in Building 49.
Control technology status:	Controlled, C21
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 2008
Construction Permit Requirements:	None, exempt (08-SJZ-231-EXM)

a. Stack S47 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S47	Exhaust flow rate, normal (ACFM):	3,200
Exhausting Unit(s):	P67	Exhaust gas temperature, normal (^{o}F):	200
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	41.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.67 ft.		

b. Stack S48 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S48	Exhaust flow rate, normal (ACFM):	4,000
Exhausting Unit(s):	P67	Exhaust gas temperature, normal (^{o}F):	200
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	12.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.0 ft.		

c. Control Device Information.

Properties	Description
Control Device Number:	C21
Unit Description:	Baghouse The material collected in the baghouse is considered product and returned back to the process.
Control Efficiency:	99% (Particulate Matter)

21. Process P68 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P68
Unit description:	Sanding Cloth Line The Sanding Cloth Line (P68) roll coats a make resin onto a foam backing. Mineral is applied to the make coating. It is then size coated, cured, and the finished product is wound onto a jumbo roll. This process is located in Building 49.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	Installed 2005

21. Process P68 — Emission Unit Information.

Process Parameter	Description
Construction Permit Requirements:	None, exempt (05-RAF-200-EXM)

a. Stack S68 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S68	Exhaust flow rate, normal (ACFM):	2,100
Exhausting Unit(s):	P68	Exhaust gas temperature, normal (^{o}F):	Ambient
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	28.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	1.67 ft.		

22. Process P69 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P69
Unit description:	Thinsulate Maker This process produces non-woven thermal insulation material and is located in Building 50.
Control technology status:	Controlled, C69
Maximum continuous rating (MMBtu/hr):	Not Applicable
Date of construction or last modification:	2012
Construction Permit Requirements:	None, exempt (12-SJZ-120-EXM)

a. Stack S69 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S69	Exhaust flow rate, normal (ACFM):	8,121
Exhausting Unit(s):	P69	Exhaust gas temperature, normal (^{o}F):	70

a. Stack S69 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	36.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	3.0 ft.		

b. Control Device Information.

Properties	Description
Control Device Number:	C69
Unit Description:	Two Stage Roll Filter and Cartridge Filter System Exhaust air from the process is filtered through two roll filters and one cartridge filter. Each filter is in the direct air stream. The first is 100% polyester fiber coated with adhesive. The second roller filter is a media of continuous filament fiber glass coated with adhesive. The final filtration stage is conducted by a cartridge filter. The cartridge filter is made up of a bank of pleated filters. The cartridge filter has a minimum efficiency reporting value (MERV) of 14.
Control Efficiency:	99% (Particulate Matter (PM100)) 90% (PM2.5 and PM10)

23. Process P270 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P270
Unit description:	Post Cure Oven The Post Cure Oven is a batch process that further conditions finished products from the Columbia Press (P40) only. The oven is an electric oven. This process is located in Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not applicable

23. Process P270 — Emission Unit Information.

Process Parameter	Description
Date of construction or last modification:	Last Modified 2006
Construction Permit Requirements:	06-POY-091

a. Stack S270 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S270	Exhaust flow rate, normal (ACFM):	1,500
Exhausting Unit(s):	P270	Exhaust gas temperature, normal (^{o}F):	200
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	42.9 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	2.0 ft.		

24. Process P271 — Emission Unit Information.

Process Parameter	Description
Process/boiler/furnace/ number:	P271
Unit description:	285 kW Emergency Diesel Generator Emergency Diesel Generator (P271) is an emergency generator used to generate electricity during power outages and is located outside Building 50.
Control technology status:	Uncontrolled
Maximum continuous rating (MMBtu/hr):	Not applicable
Date of construction or last modification:	Installed 2005
Construction Permit Requirements:	None, exempt under s. NR 406.04(1)(w), Wis. Adm. Code

a. Stack S271 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description

a. Stack S271 — Stack Information.

Stack Parameter	Description	Stack Parameter	Description
Stack Identification Number:	S271	Exhaust flow rate, normal (ACFM):	2,172
Exhausting Unit(s):	P271	Exhaust gas temperature, normal (^{o}F):	994
This stack has an actual exhaust point:	Yes	Exhaust gas discharge direction:	Up
Discharge height above ground level (ft):	8.0 ft.	Stack equipped with any obstruction:	No
Inside dimensions at outlet (ft):	0.2 ft.		

Stack Parameter Summary

Stack	Process	Building	Actual or Fugitive	Circular or Rectangular	Discharge Direction	Exhaust Obstacle	Diameter		Height		Temperature	Flow Rate
						Yes/No	ft	m	ft	m	^{o}F	acfm
S06	P07	49	Actual	Circular	Up	No	1.0	0.305	35.0	11	70	1,000
S07	P07	49	Actual	Circular	Up	No	1.0	0.305	35.0	11	70	1,000
S09	P07	49	Actual	Circular	Up	No	2.25	0.686	41.0	12	200	4,800
S11	B21	50	Actual	Circular	Up	No	2.3	0.701	43.0	13	450	4,000
S13	B22	50	Actual	Circular	Up	No	2.3	0.701	42.0	13	450	4,000
S14	P30, P31, P36, P55, P56	50	Actual	Circular	Up	No	8.3	2.530	69.0	21	175	110,000
S15	B23	50	Actual	Circular	Up	No	2.7	0.823	43.0	13	450	7,000
S16	P32	50	Actual	Circular	Up	No	2.5	0.762	62.0	19	100	41,100
S34	P44	50	Actual	Circular	Horizontal	No	0.8	0.244	38.0	12	80	2,200
S36	P45	50	Actual	Circular	Horizontal	No	1.0	0.305	23.0	7	80	3,500
S40	P48	50	Actual	Circular	Up	No	1.0	0.305	42.0	13	80	3,000
S42	P50	50	Actual	Circular	Up	No	3.0	0.914	41.0	12	70	2,000
S44	P64	50	Actual	Circular	Up	No	4.0	1.219	10.0	3	80	25,000
S45	P65	50	Actual	Circular	Up	No	1.0	0.305	53.0	16	250	1,800
S45A	P65	50	Actual	Circular	Up	No	1.6	0.488	51.7	16	250	1,800
S46	P52	50	Actual	Circular	Up	No	2.5	0.762	57.0	17	75	13,300
S46B	P65	50	Actual	Circular	Up	No	1.6	0.488	51.7	16	250	1,800
S46C	P65	50	Actual	Circular	Up	No	1.6	0.488	43.0	13	250	1,800
S47	P67	49	Actual	Circular	Up	No	1.67	0.509	41.0	12	200	3,200
S48	P67	49	Actual	Circular	Up	No	2.0	0.610	12.0	4	200	4,000
S49	P66	49	Actual	Circular	Up	No	1.25	0.381	41.0	12	Ambient	443
S54	P54	50	Actual	Circular	Up	No	1.0	0.305	1.3	0.4	Ambient	3,260
S68	P68	49	Actual	Circular	Up	No	1.67	0.509	28.0	9	Ambient	2,100
S69	P69	50	Actual	Circular	Up	No	3.0	0.914	36.0	11	70	8,121
S200	P31	50	Actual	Circular	Up	No	3.5	1.067	54.3	17	80	15,000
S210	P31	50	Actual	Circular	Up	No	3.0	0.914	51.0	16	200-290	13,000
S220	P31	50	Actual	Circular	Up	No	3.0	0.914	51.0	16	200-290	13,000
S230	P31	50	Actual	Circular	Up	No	2.33	0.710	48.2	15	300-320	4,000

Stack	Process	Building	Actual or Fugitive	Circular or Rectangular	Discharge Direction	Exhaust Obstacle	Diameter		Height		Temperature	Flow Rate
						Yes/No	ft	m	ft	m	^{o}F	acfm
S240	P56	50	Actual	Circular	Up	No	3.0	0.914	50.0	15	200-290	10,000
S250	P56	50	Actual	Circular	Up	No	3.0	0.914	50.0	15	80	10,000
S260	P40	50	Actual	Circular	Up	No	1.33	0.405	45.6	14	80	6,000
S270	P270	50	Actual	Circular	Up	No	2.0	0.610	42.9	13	200	1,500
S271	P271	50	Actual	Circular	Up	No	0.2	0.051	8.0	2.4	2,172	994

Insignificant Emissions Units

☒ Boiler, Turbine, and HVAC System Maintenance.
☒ Convenience Water Heating.
☒ Demineralization and Oxygen Scavenging of Water for Boilers.
☒ Fire Control Equipment.
☒ Fuel Oil Storage Tanks (< 10,000 gal.).
☒ Internal Combustion Engines Used for Warehousing and Material Transport
☒ Janitorial Activities.
☒ Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.).
☒ Office Activities
☒ Pollution Control Equipment
☒ Purging of Natural Gas Lines
☒ Sanitary Sewer and Plumbing Venting
☒ Electric quality assurance sample oven for 22 Maker (P30)
☒ Indoor bulk storage tanks (14 tanks)
☒ Bulk tank farm (13 tanks, outdoors)
☒ Cold storage rooms (3)
☒ Quality assurance laboratory for 21 Maker (P30)
☒ Facility quality assurance laboratories (2)
☒ Non-woven converting area
☒ Fiber making area
☒ Electric oven for loft recovery area
☒ Cold cleaning tanks
☒ Lab hood
☒ Scrubber – east wall
☒ Vacuum pump filter
☒ Boiler room – summer
☒ Welding hood
☒ Blister
☒ Scrubber
☒ Buff puff converting, packaging (2)
☒ Hand pad converting, packaging
☒ Laminate converting, packaging
☒ Steam condensate
☒ Mineral Coating Operation (P08): Particulate matter emissions are controlled by a dust collector and vented back into the building. This process is located in Building 49.
☒ General Purpose Bun Coater (I1): The material produced by this process is made by a non-woven substrate adhered to a fiberglass core and while the material is wound, a foaming resin coating is continuously applied onto the non-woven substrate. The finished material is a wound "bun" consisting of the coated non-woven substrate. The General Purpose Bun Coater (I1) is a batch process. The wound buns are further processed on a different line to make non-woven abrasive wheels used for fine finishing applications such as polishing or light cleaning. This process is located in Building 50.

☒ 2A Fiber Line (I2): The 2A Fiber Line extrudes purchased resin in pellet form to make very thin nylon or polyester fibers, essentially a staple fiber, and coats an antistatic finish onto the nylon or polyester fibers in a wind and rewind process. The antistatic finish is applied to enhance fiber handling in subsequent operations. The fibers made from this process are an intermediate fiber that are used in making abrasives and pressure sensitive tape products at the facility. This process is located in Building 50.

☒ General Purpose Polyurethane Foam Process (Slab Press) (I3): The process involves making a pressed foamed slab that is an intermediate material used in the manufacturing of other products. A sheet of non-woven nylon substrate is placed between a heated plat where a foaming resin is hand-applied to the non-woven nylon substrate. The slab press is closed on the sheet and held until the cure is complete, resulting in a pressed foamed slab. This process is located in Building 50.

☒ Roloc Semi-Automated and Manual Disc Assembly (I4): This process applies adhesive to a metal or plastic "button" through either a squeeze bottle or an air atomized spray nozzle. Then a non-woven material is affixed to the button. The product can be composed of a variety of non-woven abrasive substrates with a plastic or metal button attachment to aid in the use of this product on a variety of tools used for finishing. This process is located in Building 50.

☒ Rotopeen Line (I5): This process involves applying a resin mixture manually using a paint roller application onto a nylon woven sheet and carbide balls are manually placed onto the coated sheet. The sheet is then baked in an oven before cutting and finishing into the final product. This process is located in Building 50.

☒ Corona Treater Line (I6)

☒ Safety Walk Mineral Reclaim

Corona Treater Line (I6)

The facility submitted a construction permit exemption request on July 20, 2009, for the installation of a Corona Treater Line in Building 50. The installation of the Corona Treater Line is exempt from construction permit requirements, per s. NR 406.04(2)(c), Wis. Adm. Code. This determination was made as part of the review for construction permit 11-SJZ-179 and operation permit 612023940-P10. As a result, a construction permit exemption was not issued for the installation of the Corona Treater Line.

Emissions from this process include ozone only. The design capacity of the Corona Treater Line is 1.2 kilowatts (kW). The Corona Treater Line has an ozone emission rate of 0.071 pounds per kilowatt per hour. The ozone emissions are calculated below.

MTE (lb/hr) = (0.071 lb/kW-hr) * (1.2 kW)
MTE (lb/hr) = 0.085 lb/hr
MTE (lb/day) = (0.085 lb/hr) * (24 hr/day)
MTE (lb/day) = 2.04 lb/day
MTE (ton/yr) = (0.085 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.37 ton/yr
PTE (lb/hr) = 0.085 lb/hr
PTE (lb/day) = 2.04 lb/day
PTE (ton/yr) = 0.37 ton/yr

Since ozone is formed from nitrogen oxide and volatile organic compound emissions, the ozone emissions were compared to the construction permit threshold for nitrogen oxide and volatile organic compound of 5.7 pounds per hour. Maximum ozone emissions are less than 5.7 pounds per hour. Therefore, the installation of the Corona Treater Line is exempt from a construction permit, per s. NR 406.04(2)(c), Wis. Adm. Code. Maximum volatile organic compound emissions are less than 15 pounds per day. As a result, the Corona Treater Line is exempt from ch. NR 424. Wis. Adm. Code requirements, per s. NR 424.03(1)(a)4., Wis. Adm. Code. Maximum volatile organic compound emissions are also less

than the significance threshold of 2,000 pounds per year. As a result, the Corona Treater Line is considered an insignificant source.

Other Insignificant Emission Unit Changes:
The caustic tank, laminate room – north wall, steam condensate, liquor feed tank – R.V., south salt room – west wall, underground fuel oil tank, south salt room – south wall, ammonia system – north wall, ammonia system – south wall, and shave staker are no longer operating and have been removed from the facility.

CROSS MEDIA IMPACTS

Some of the scrap material from the product lines is recycled. The remaining material is sent to a landfill or sent to an incinerator for disposal. All process wastewater at the plant is sent to the sanitary sewer.

SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS

The applicable requirements and emission calculations for the following emissions units are either new or updated as a result of this renewal:

Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2
Allowable Emissions: Particulate matter emission limits for Boiler #2 (B21) have been updated as a result of this review. Particulate matter emissions are currently limited to 0.60 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code and 0.54 pounds per hour, per s. NR 404.08(2), Wis. Adm. Code. The 0.60 pounds per million Btu limit restricts total suspended particulate matter (TSP) emissions and the 0.54 pounds per hour limit restricts both the total suspended particulate matter and PM10 emissions. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. The 0.54 pounds per hour limit was established in operation permit 612023940-P01 to allow the facility to meet the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter and PM10 and was not established for prevention of significant deterioration (PSD) purposes. Since this limit was established, there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Therefore, removal of the 0.54 pounds per hour for total suspended particulate matter will be approved under construction permit 11-SJZ-179. The facility will still be required to restrict particulate matter emissions from Boiler #2 (B21) to 0.60 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code. The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions have not changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions.

A NAAQS for PM10 under s. NR 404.04(8), Wis. Adm. Code applies to PM10 emissions from Boiler #2 (B21). Since the 0.54 pounds per hour limit was established to meet the NAAQS for PM10, PM10 emissions have been specified as a pollutant in the permit to include this limit. To demonstrate compliance with the PM10 emission limit, the facility will be required to fire natural gas or #2 fuel oil in Boiler #2 (B21). The maximum PM10 emissions from these fuels at the maximum boiler capacity are less than the emission limit of 0.54 pounds per hour. As a result, PM10 emissions are not expected to exceed 0.54 pounds per hour from the combustion of natural gas or #2 fuel oil. To verify compliance, the facility will be required to record the type and amount of fuel fired in Boiler #2 (B21). These records will show that only natural gas or #2 fuel oil were fired in Boiler #2 (B21).

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements for Boiler #2 (B21).

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The greenhouse gas emissions from Boiler #2 (B21) have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor-#2 Fuel Oil**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu	**kg/MMBtu**			
Carbon Dioxide (CO2)	53.02	73.96	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	3.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	6.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from Boiler #2 (B21) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). Greenhouse gas emissions from Boiler #2 (B21) are calculated below.

Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (12.6 MMBtu/hr)
MTE-Mass (lb/hr) = 1,473 lb/hr
MTE-Mass (ton/yr) = (1,473 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 6,451 ton/yr
PTE-Mass (lb/hr) = 1,473 lb/hr
PTE-Mass (ton/yr) = 6,451 ton/yr
PTE-CO_2e (lb/hr) = (1,473 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 1,473 lb/hr
PTE-CO_2e (ton/yr) = (1,473 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 6,451 ton/yr

Methane (CH4) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (12.6 MMBtu/hr)

MTE-Mass (lb/hr) = 0.0278 lb/hr
MTE-Mass (ton/yr) = (0.0278 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.122 ton/yr
PTE-Mass (lb/hr) = 0.0278 lb/hr
PTE-Mass (ton/yr) = 0.122 ton/yr
PTE-CO_2e (lb/hr) = (0.0278 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.0583 lb/hr
PTE-CO_2e (ton/yr) = (0.0583 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 2.56 ton/yr

Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (12.6 MMBtu/hr)
MTE-Mass (lb/hr) = 0.00278 lb/hr
MTE-Mass (ton/yr) = (0.00278 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.0122 ton/yr
PTE-Mass (lb/hr) = 0.00278 lb/hr
PTE-Mass (ton/yr) = 0.0122 ton/yr
PTE-CO_2e (lb/hr) = (0.00278 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 0.861 lb/hr
PTE-CO_2e (ton/yr) = (0.861 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 3.77 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (1,473 lb/hr) + (0.0278 lb/hr) + (0.00278 lb/hr)
MTE-Mass (lb/hr) = 1,473 lb/hr
MTE-Mass (ton/yr) = (1,473 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 6,451 ton/yr
PTE-Mass (lb/hr) = 1,473 lb/hr
PTE-Mass (ton/yr) = 6,451 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE-CO2e (lb/hr) = (1,473 lb/hr) + (0.0583 lb/hr) + (0.861 lb/hr)
PTE-CO2e (lb/hr) = 1,474 lb/hr
PTE-CO2e (ton/yr) = (1,474 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO2e (ton/yr) = 6,457 ton/yr

The greenhouse gas emissions from #2 fuel oil combustion have been calculated using this same method. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The emissions from all other pollutants from Boiler #2 (B21) have not changed. Please refer to the preliminary determination for operation permit number 612023940-P01 for the emission calculations of the other pollutants for Boiler #2 (B21).

Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3

Allowable Emissions: Particulate matter emission limits for Boiler #3 (B22) have been updated as a result of this review. Particulate matter emissions are currently limited to 0.60 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code and 0.72 pounds per hour, per s. NR 404.08(2), Wis. Adm. Code. The 0.60 pounds per million Btu limit restricts total suspended particulate matter (TSP) emissions and the 0.72 pounds per hour limit restricts both the total suspended particulate matter and PM10 emissions. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code.

PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. The 0.72 pounds per hour limit was established in operation permit 612023940-P01 to allow the facility to meet the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter and PM10 and was not established for prevention of significant deterioration (PSD) purposes. Since this limit was established, there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Therefore, removal of the 0.72 pounds per hour for total suspended particulate matter will be approved under construction permit 11-SJZ-179. The facility will still be required to restrict particulate matter emissions from Boiler #3 (B22) to 0.60 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code. The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions have not changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions.

A NAAQS for PM10 under s. NR 404.04(8), Wis. Adm. Code applies to PM10 emissions from Boiler #3 (B22). Since the 0.72 pounds per hour limit was established to meet the NAAQS for PM10, PM10 emissions have been specified as a pollutant in the permit to include this limit. To demonstrate compliance with the PM10 emission limit, the facility will be required to fire natural gas or #2 fuel oil in Boiler #3 (B22). The maximum PM10 emissions from these fuels at the maximum boiler capacity are less than the emission limit of 0.72 pounds per hour. As a result, PM10 emissions are not expected to exceed 0.72 pounds per hour from the combustion of natural gas or #2 fuel oil. To verify compliance, the facility will be required to record the type and amount of fuel fired in Boiler #3 (B22). These records will show that only natural gas or #2 fuel oil were fired in Boiler #3 (B22).

Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements for Boiler #3 (B22).

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The greenhouse gas emissions from Boiler #3 (B22) have been calculated as part of this review. The method used to calculate the greenhouse gas emissions is the same as the method used for Boiler #2 (B21). Please refer to the calculation section for Boiler #2 (B21) above for more information. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The emissions from all other pollutants from Boiler #3 (B22) have not changed. Please refer to the preliminary determination for operation permit number 612023940-P01 for the emission calculations of the other pollutants for Boiler #3 (B22).

Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4

Boiler #4 (B23) was modified under construction permit 09-MHR-142. The modification included replacing the burner in 2006. Boiler #4 (B23) still has the ability to fire natural gas and #2 fuel oil only.

Allowable Emissions: Particulate matter emission limits for Boiler #4 (B23) have been updated a result of this renewal. Particulate matter emissions are currently limited to 0.15 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code and 0.96 pounds per hour, per s. NR 404.08(2), Wis. Adm. Code. The 0.60 pounds per million Btu limit restricts total suspended particulate matter (TSP) emissions and the 0.96 pounds per hour limit restricts both the total suspended particulate matter and PM10 emissions. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. The 0.96 pounds per hour limit was established in operation permit 612023940-P01 to allow the facility to meet the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter and PM10 and was not established for prevention of significant deterioration (PSD) purposes. Since this limit was established, there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Therefore, removal of the 0.96 pounds per hour for total suspended particulate matter will be approved under construction permit 11-SJZ-179. The facility will still be required to restrict particulate matter emissions from Boiler #4 (B23) to 0.60 pounds per million Btu, per s. NR 415.06(1)(a), Wis. Adm. Code. The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions have not changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions.

A NAAQS for PM10 under s. NR 404.04(8), Wis. Adm. Code applies to PM10 emissions from Boiler #4 (B23). Since the 0.96 pounds per hour limit was established to meet the NAAQS for PM10, PM10 emissions have been specified as a pollutant in the permit to include this limit. To demonstrate compliance with the PM10 emission limit, the facility will be required to fire natural gas or #2 fuel oil in Boiler #4 (B23). The maximum PM10 emissions from these fuels at the maximum boiler capacity are less than the emission limit of 0.96 pounds per hour. As a result, PM10 emissions are not expected to exceed 0.96 pounds per hour from the combustion of natural gas or #2 fuel oil. To verify compliance, the facility will be required to record the type and amount of fuel fired in Boiler #4 (B23). These records will show that only natural gas or #2 fuel oil were fired in Boiler #4 (B23).

The facility requested in the application for construction permit 09-MHR-142 that the burner replacement be considered a minor modification to a major prevention of significant deterioration (PSD) source. Prior to construction permit 09-MHR-142, the sulfur content of the #2 fuel oil fired in Boiler #4 (B23) was 0.5 percent by weight. Using a sulfur content of 0.5 percent, the net sulfur dioxide emissions from the burner replacement exceeded the major modification PSD threshold of 40 tons per year. EPA policy requires 3M to reduce sulfur dioxide emissions to a level equivalent to the best available control technology

(BACT).[2] To achieve BACT-equivalent sulfur dioxide emission reductions and allow the burner replacement to be considered a minor modification to a major PSD source, the sulfur content of #2 fuel oil has been limited to 15 parts per million (ppm). By firing only natural gas and ultra low sulfur fuel oil in Boiler #4 (B23), potential emissions of all criteria pollutants will be below major modification thresholds for major PSD sources. Please note that the sulfur content limit of 15 ppm is a limit that allowed the burner replacement to be considered a minor modification to a major PSD source and is not a BACT limit. The sulfur content limit is a BACT avoidance limit.

To demonstrate compliance with the 15 ppm sulfur content limit, the facility is required to obtain fuel supplier certifications for each shipment of distillate fuel oil indicating that the fuel oil complies with the specifications for fuel oils no. 1 or 2 as defined in ASTM D396-02a, "Standard Specification for Fuel Oils" and the sulfur content in the fuel oil does not exceed 15 ppm. To verify compliance, the facility is required to keep records of the date the fuel oil shipment was received, the type of fuel oil received, the name of the fuel oil supplier for each shipment of fuel oil, and the fuel supplier certifications for each shipment of fuel oil. The fuel supplier certifications for each shipment of distillate fuel oil will ensure that the sulfur content in the fuel oil will not exceed 15 ppm.

The facility has demonstrated that the sulfur content in distillate fuel oil fired in Boiler B23 (#4) does not exceed 15 parts per million. As a result, the following requirements in construction permit 09-MHR-142 will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10. Please note that the requirement to keep records of the fuel supplier certifications is included in construction permit 11-SJZ-179 and operation permit 612023940-P10. This requirement was listed in I.H.3.c.(2)(d) and in I.H.3.c.(3)(b) in construction permit 09-MHR-142. As a result, the requirement to keep fuel supplier certification records in I.H.3.c.(3)(b) below is a duplicate requirement and is not necessary.

I.H.3.b.(1) Beginning on the date when Permit 09-MHR-142 is issued, the permittee shall meet each of the following requirements:
(a) The sulfur content of the distillate fuel oil fired in Boiler B23 may not exceed 15 parts per million, by weight.
(b) The permittee may not fire distillate fuel oil in Boiler B23 until each tank that contains distillate fuel oil that may be fired in Boiler B23 has a sulfur content no greater than 15 parts per million, by weight. [s. 285.65(7), Wis. Stats., Permit 09-MHR-142]

I.H.3.c.(3) The permittee shall keep and maintain the following records:
(a) The date when distillate fuel oil was first fired in Boiler B23 on or after Permit # 09-MHR-142 was issued.
(b) Adequate documentation showing that condition I.H.3.b.(1)(b) was met.
(b) Fuel supplier certifications required in I.H.3.b.(2).
[s. NR 439.04(1)(d), Wis. Adm. Code]

In addition to these volatile organic compound emissions requirements, the volatile organic compound emissions from the entire facility will be limited to 249 tons per year, summed over a 12 month period after the issuance of this permit. After issuance of this permit, the facility will be considered a synthetic minor source for PSD purposes and will be treated as such for future projects. However, any PSD BACT limitations and BACT avoidance limitations established prior to the issuance of this permit will be

[2] Memorandum from Eric V. Schaeffler, USEPA, "Guidance on the Appropriate Injunctive Relief for Violations of Major New Source Review Requirements", November 17, 1998.

retained.

All other applicable requirements that apply to Boiler #4 (B23) have not changed since operation permit 612023940-P01 was issued. Please refer to the preliminary determination for operation permit 612023940-P01 for details on the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: Emissions from Boiler #4 (B23) include criteria pollutants, greenhouse gases, and hazardous air pollutants. The only change to the emissions from Boiler #4 (B23) since operation permit 612023940-P01 was issued is sulfur dioxide emissions have decreased. Sulfur dioxide emissions from #2 fuel oil combustion are calculated using the emission factor from AP-42, Fifth Edition, Table 1.4-2, sulfur content in #2 fuel oil, and the maximum rating of the boiler. The maximum sulfur content is 15 ppm or 0.0015 percent by weight.

MTE (lb/hr) = (142/1000 lb/gal) * (0.0015 1b/lb) / (140,000 Btu/gal) * (1,000,000 Btu/1 MMBtu) * (22.1 MMBtu/hr)
MTE (lb/hr) = 0.0336 lb/hr
MTE (ton/yr) = (0.0336 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.147 ton/yr
PTE (lb/hr) = 0.0336 lb/hr
PTE (ton/yr) = 0.147 ton/yr

The emissions and the methods used to calculate the emissions from other pollutants resulting from the combustion of #2 fuel oil and the combustion of natural gas have not changed since operation permit 612023940-P01 was issued. Please refer to the preliminary determination for operation permit number 612023940-P01 for the emission calculations of the other pollutants.

The greenhouse gas emissions from Boiler #4 (B23) have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor-#2 Fuel Oil**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu	**kg/MMBtu**			
Carbon Dioxide (CO2)	53.02	73.96	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	3.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	6.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from Boiler #4 (B23) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). Greenhouse gas emissions from Boiler #4 (B23) are calculated below.

Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (22.1 MMBtu/hr)

MTE-Mass (lb/hr) = 2,583 lb/hr
MTE-Mass (ton/yr) = (2,583 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 11,315 ton/yr
PTE-Mass (lb/hr) = 2,583 lb/hr
PTE-Mass (ton/yr) = 11,315 ton/yr
PTE-CO_2e (lb/hr) = (2,583 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 2,583 lb/hr
PTE-CO_2e (ton/yr) = (2,583 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 11,315 ton/yr

Methane (CH4) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (22.1 MMBtu/hr)
MTE-Mass (lb/hr) = 0.0487 lb/hr
MTE-Mass (ton/yr) = (0.0487 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.213 ton/yr
PTE-Mass (lb/hr) = 0.0487 lb/hr
PTE-Mass (ton/yr) = 0.213 ton/yr
PTE-CO_2e (lb/hr) = (0.0487 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 1.02 lb/hr
PTE-CO_2e (ton/yr) = (1.02 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 4.48 ton/yr

Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (22.1 MMBtu/hr)
MTE-Mass (lb/hr) = 0.00487 lb/hr
MTE-Mass (ton/yr) = (0.00487 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.0213 ton/yr
PTE-Mass (lb/hr) = 0.00487 lb/hr
PTE-Mass (ton/yr) = 0.0213 ton/yr
PTE-CO_2e (lb/hr) = (0.00487 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 1.51 lb/hr
PTE-CO_2e (ton/yr) = (1.51 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 6.62 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (2,583 lb/hr) + (0.0487 lb/hr) + (0.00487 lb/hr)
MTE-Mass (lb/hr) = 2,583 lb/hr
MTE-Mass (ton/yr) = (2,583 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 11,315 ton/yr
PTE-Mass (lb/hr) = 2,583 lb/hr
PTE-Mass (ton/yr) = 11,315 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE-CO2e (lb/hr) = (2,583 lb/hr) + (1.02 lb/hr) + (1.51 lb/hr)
PTE-CO2e (lb/hr) = 2,586 lb/hr
PTE-CO2e (ton/yr) = (2,586 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO2e (ton/yr) = 11,326 ton/yr

The greenhouse gas emissions from #2 fuel oil combustion have been calculated using this same method. Please refer to the "FACILITY EMISSIONS" section below for all emissions from Boiler #4 (B23).

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process

Allowable Emissions: The Abrasive Sponge Coating Process (P07) was installed in 1999 under

construction permit 99-POY-083. When the Abrasive Sponge Coating Process (P07) was installed, it was identified as P07, P09, and P10. Since then, the Abrasive Sponge Coating Process (P07) and the two coating stations P09 and P10 have been combined into one process identified as process P07.

Since the applicable particulate matter requirements for the Abrasive Sponge Coating Process (P07) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Abrasive Sponge Coating Process (P07) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The resin coating station portion (stacks S06 and S07) of the Abrasive Sponge Coating Process (P07) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from each resin coating station are subject to the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code. The allowable emission rate using the process weight rate equation is 0.72 pounds per hour for both stacks S06 and S07 combined. This allowable emission limit applies to total suspended particulate matter.

According to s. NR 415.05(2), Wis. Adm. Code, if the allowable emission limit in s. NR 415.05(2), Wis. Adm. Code is less restrictive than the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code, then the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code shall be used. The allowable emission limit most applicable to the resin coating station portion (stacks S06 and S07) of the Abrasive Sponge Coating Process (P07) is 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code for each station. This emission limit equates to 1.81 pounds per hour for stacks S06 and S07 each using a stack gas flow rate of 1,000 actual cubic feet per minute (ACFM) and a stack gas temperature of 70 degrees Fahrenheit (^oF) according to the following:

Flow (SCFM) = ACFM * (T_{STP} + 460 / T_{Actual} + 460) * (P_{Actual} / P_{STP})
Flow (SCFM) = (1,000 ACFM) * [(68°F + 460) / (70°F + 460)] * [(1)/(1)]
Flow (SCFM) = 1,004 SCFM (standard cubic feet per minute)

Using a stack exhaust gas moisture content of zero percent, the flowrate of 1,004 SCFM equates to a dry standard cubic feet per minute (DSCFM) of 1,004 DSCFM according to the following for stacks S06 and S07 each:

Flow Rate (DSCFM) = Flow Rate (SCFM) * (1 – Stack Gas Moisture %/100)
Flow Rate (DSCFM) = (1,004 SCFM) * (1-0%/100)
Flow Rate (DSCFM) = 1,004 DSCFM

The allowable emission limit of 0.40 pounds of particulate matter per 1,000 pounds of gas equates to the following hourly limit for stacks S06 and S07 each:

Allowable Emission Rate (lb/hr) = (0.40 lb/1,000 lb) * (0.075 lb/ft^3) * (1,004 DSCFM) * (60 min/hr)
Allowable Emission Rate (lb/hr) = 1.79 lb/hr

The allowable emission rate of 0.72 pounds per hour for both stacks S06 and S07 combined, determined from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code is the most restrictive limit for stacks S06 and S07 each.

The total suspended particulate matter and PM10 emissions from the stacks S06 and S07 were modeled for the review of construction permit 99-POY-083 and an exceedance of the National Ambient Air Quality Standard (NAAQS) was predicted. To avoid an exceedance of the NAAQS for total suspended particulate matter and PM10, particulate matter emissions from stacks S06 and S07 were limited to 0.256 pounds per hour for each stack S06 and S07. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 0.256 pound per hour limit.

Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removal of the 0.256 pound per hour for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Particulate matter emissions from the Abrasive Sponge Coating Process (P07) will still be limited to the most restrictive of 0.40 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. At the time of this review, the allowable emission rate determined from the process weight rate equation is the most restrictive limit.

The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions have been revised. The maximum total suspended particulate matter and PM10 emissions from the Abrasive Sponge Coating Process (P07) is 0.256 pounds per hour for each pollutant and is calculated using the maximum capacity of the equipment. Since this emission rate is calculated using the maximum capacity of the equipment, particulate matter and PM10 emissions will never exceed 0.256 pounds per hour for each pollutant. To demonstrate compliance, the facility is currently required to determine the hourly emissions and keep daily records of information used to determine the hourly emissions. Since the facility will never exceed 0.256 pounds per hour, maintaining records indicating that this is the maximum emissions from stack S06 and S07 is sufficient to demonstrate compliance with the 0.40 pounds of particulate matter per 1,000 pounds of gas and the allowable emission rate determined from the process weight rate equation for total suspended particulate matter and the 0.256 pound per hour limit for PM10. The 0.256 pound per hour emission rate is less than the allowable emission limit calculated from 0.40 pounds of particulate matter per 1,000 pounds of gas and the allowable emission rate determined from the process weight rate equation for total suspended particulate matter. The following requirements have been updated as a result of this review.

Before Correction:
I.A.1.b.(1) (viii) The permittee shall also establish the particulate matter (PM) emission rate in terms of pound of PM per pound of coating solids sprayed. [s. NR 439.03, Wis. Adm. Code]

I.A.2.b.(2) Using and emission rate obtained under I.A.1.b.(1)(viii) and the records kept in accordance with conditions I.A.1.c.(2) and (3), the permittee shall determine the pound per hour emission rate from each spray coating operation. [s. NR 439.03, Wis. Adm. Code]

I.A.2.c.(2) The permittee shall record the daily amounts of coating and coating solids sprayed. [s. NR 439.04, Wis. Adm. Code]

I.A.2.c.(3) The permittee shall record the daily hours of operation of each spray coating operation. [s. NR 439.04, Wis. Adm. Code]

After Correction:
I.D.2.b.(1) The recordkeeping requirement in I.D.2.c.(2) also serves as the compliance demonstration requirement. [s. NR 439.04(3), Wis. Adm. Code]

I.D.2.c.(2) **Records:** The permittee shall keep records indicating that the maximum emissions are 0.256 pounds per hour for each stack S06 and S07. [s. NR 439.04(1)(d), Wis. Adm. Code]

I.D.3.b.(1) The recordkeeping requirement in I.D.3.c.(2) also serves as the compliance demonstration requirement. [s. NR 439.04(3), Wis. Adm. Code]

I.D.3.c.(2) **Records:** The permittee shall keep records indicating that the maximum emissions are 0.256 pounds per hour for each stack S06 and S07. [s. NR 439.04(1)(d), Wis. Adm. Code]

Visible emissions from stack S06, S07, and S09 are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code.

Volatile organic compound emissions from the Abrasive Sponge Coating Process (P07) are limited to 15 pounds per day to avoid ch. NR 424, Wis. Adm. Code requirements. This limit was established in construction permit 03-RAF-318.

The state hazardous air pollutant requirements applicable to the Abrasive Sponge Coating Process (P07) have been revised. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for the ch. NR 445, Wis. Adm. Code applicability.

<u>Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions:</u> Emissions from Abrasive Sponge Coating Process (P07) include particulate matter, volatile organic compounds, hazardous air pollutants, and greenhouse gases. The information used to calculate the particulate matter, volatile organic compound, and hazardous air pollutant emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The greenhouse gas emissions from the Abrasive Sponge Coating Process (P07) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	Emission Factor-Natural Gas	Emission Factor Reference	Global Warming Potential (CO_2e/CO_2)	Global Warming Potential Reference

	kg/MMBtu			
Carbon Dioxide (CO2)	53.02	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from Abrasive Sponge Coating Process (P07) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). The total heat input of the ovens is 4.5 million Btu per hour. Greenhouse gas emissions from Abrasive Sponge Coating Process (P07) are calculated below.

<u>Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:</u>
MTE-Mass (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (4.5 MMBtu/hr)
MTE-Mass (lb/hr) = 526 lb/hr
MTE-Mass (ton/yr) = (526 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 2,304 ton/yr
PTE-Mass (lb/hr) = 526 lb/hr
PTE-Mass (ton/yr) = 2,304 ton/yr
PTE-CO_2e (lb/hr) = (526 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 526 lb/hr
PTE-CO_2e (ton/yr) = (526 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 2,304 ton/yr

<u>Methane (CH4) Emissions from Natural Gas Combustion:</u>
MTE-Mass (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (4.5 MMBtu/hr)
MTE-Mass (lb/hr) = 0.00992 lb/hr
MTE-Mass (ton/yr) = (0.00992 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.0435 ton/yr
PTE-Mass (lb/hr) = 0.00992 lb/hr
PTE (ton/yr) = 0.0435 ton/yr
PTE-CO_2e (lb/hr) = (0.00992 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.208 lb/hr
PTE-CO_2e (ton/yr) = (0.208 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 0.913 ton/yr

<u>Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:</u>
MTE-Mass (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (4.5 MMBtu/hr)
MTE-Mass (lb/hr) = 0.000992 lb/hr
MTE-Mass (ton/yr) = (0.000992 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.00435 ton/yr
PTE-Mass (lb/hr) = 0.000992 lb/hr
PTE-Mass (ton/yr) = 0.00435 ton/yr
PTE-CO_2e (lb/hr) = (0.000992 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 0.308 lb/hr
PTE-CO_2e (ton/yr) = (0.308 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1.35 ton/yr

<u>Greenhouse Gas Mass Emissions from Natural Gas Combustion:</u>

MTE-Mass (lb/hr) = (526 lb/hr) + (0.00992 lb/hr) + (0.000992 lb/hr)
MTE-Mass (lb/hr) = 526 lb/hr
MTE-Mass (ton/yr) = (526 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 2,304 ton/yr
PTE-Mass (lb/hr) = 526 lb/hr
PTE-Mass (ton/yr) = 2,304 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE-CO2e (lb/hr) = (526 lb/hr) + (0.208 lb/hr) + (0.308 lb/hr)
PTE-CO2e (lb/hr) = 527 lb/hr
PTE-CO2e (ton/yr) = (527 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO2e (ton/yr) = 2,306 ton/yr

Please refer to the "FACILITY EMISSIONS" section below for all emissions from Abrasive Sponge Coating Process (P07).

Process P30, Stack S14, Control Device C01 — 22 Maker

Allowable Emissions: The only change to the allowable emissions for the 22 Maker (P30) is with conducting capture efficiency testing with the compliance emission tests. If no changes were made to the coating bay ventilation system since the last capture test that would reduce the capture efficiency, then the facility can request a waiver to not conduct a capture test. As a result, the option to only conduct a capture efficiency test if there is a change in the coating bay ventilation systems has been added to the compliance emission test requirement for the 22 Maker (P30). See below.

I.E.1.b.(1) **Compliance Emission Test:** conduct a compliance emission test every two years to determine volatile organic compound emissions. Each test shall be performed within 90 days of the anniversary date of the initial test (09/27/98). If the permittee cannot conduct the compliance emission test within this time frame, an extension to conduct the test may be requested. The compliance emission test shall consist of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. The permittee may request a waiver to not conduct a capture test by demonstrating that no changes have been made to the coating bay ventilation system, which would have reduced the overall capture of the ventilation system since the last capture test. [ss. NR 439.03 and NR 439.075, Wis. Adm. Code, permits 11-SJZ-179 and 612023940-P10]

Further clarification has been added to the compliance demonstration and recordkeeping requirements related to the coating usage, cleanup solvent usage, and volatile organic compound content limits. Because the amount of coatings and cleanup solvents used and the volatile organic compound content in the coatings and cleanup solvents are restricted, the facility is required to calculate the amount of coatings used, the amount of cleanup solvents used, and the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents used each month to demonstrate compliance. To verify compliance, the facility is required to keep records of the total amount of coatings used, the total amount of cleanup solvents used, and the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents used each month.

As part of normal operation of the 22 Maker (P30), nozzles, rollers, feeders, and various other parts are occasionally cleaned. This type of cleaning involves manually cleaning portions of the maker, cleaning components of the maker in parts cleaners, or doing a complete flush of the system. Manual cleaning of the maker includes hand wiping portions of the maker with cleanup solvent. The amount of cleanup solvent used when hand cleaning portions of the maker is less than one gallon. Nozzles, rollers, feeders, and various other parts are cleaned in parts cleaners. A complete flush of the maker is a closed loop

process and generates negligible emissions.

In addition to these compliance demonstration, monitoring, and recordkeeping requirements, the facility is also required to operate the regenerative thermal oxidizer (C01) according the Paper and Other Web Coating Operations MACT JJJJ standard. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for more information.

In addition to these volatile organic compound emission requirements, the volatile organic compound emissions from the entire facility will be limited to 249 tons per year, summed over a 12 month period after the issuance of this permit. After issuance of this permit, the facility will be considered a synthetic minor source for PSD purposes and will be treated as such for future projects. However, all PSD BACT limitations and BACT avoidance limitations established prior to the issuance of this permit will be retained.

The state hazardous air pollutant requirements applicable to the 22 Maker (P30) have been revised. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for the ch. NR 445, Wis. Adm. Code applicability.

No other changes have been made to the other emission requirements. Please refer to operation permit 612023940-P01 for details about the other emission requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The volatile organic compound hazardous air pollutant emissions from the 22 Maker (P30) have not changed as a result of this review. However, greenhouse gas emissions from the cure oven have been included. The cure oven has a total heat input capacity of 2 million Btu per hour and has the capability of firing natural gas and #2 fuel oil.

The greenhouse gas emissions from the 22 Maker (P30) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor-#2 Fuel Oil**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu	**kg/MMBtu**			
Carbon Dioxide (CO2)	53.02	73.96	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	3.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	6.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from 22 Maker (P30) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). Greenhouse gas emissions from 22 Maker (P30) are calculated below.

Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2 MMBtu/hr)
MTE-Mass (lb/hr) = 234 lb/hr
MTE-Mass (ton/yr) = (234 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 1,024 ton/yr
PTE-Mass (lb/hr) = 234 lb/hr
PTE-Mass (ton/yr) = 1,024 ton/yr
PTE-CO_2e (lb/hr) = (234 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 234 lb/hr
PTE-CO_2e (ton/yr) = (234 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1,024 ton/yr

Methane (CH4) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2 MMBtu/hr)
MTE-Mass (lb/hr) = 0.00441 lb/hr
MTE-Mass (ton/yr) = (0.00441 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.0193 ton/yr
PTE-Mass (lb/hr) = 0.00441 lb/hr
PTE-Mass (ton/yr) = 0.0193 ton/yr
PTE-CO_2e (lb/hr) = (0.00441 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.0926 lb/hr
PTE-CO_2e (ton/yr) = (0.0926 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 0.406 ton/yr

Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2 MMBtu/hr)
MTE-Mass (lb/hr) = 0.000441 lb/hr
MTE-Mass (ton/yr) = (0.000441 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 0.00193 ton/yr
PTE-Mass (lb/hr) = 0.000441 lb/hr
PTE-Mass (ton/yr) = 0.00193 ton/yr
PTE-CO_2e (lb/hr) = (0.000441 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 0.137 lb/hr
PTE-CO_2e (ton/yr) = (0.137 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 0.599 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE-Mass (lb/hr) = (234 lb/hr) + (0.00441 lb/hr) + (0.000441 lb/hr)
MTE-Mass (lb/hr) = 234 lb/hr
MTE-Mass (ton/yr) = (234 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE-Mass (ton/yr) = 1,024 ton/yr
PTE-Mass (lb/hr) = 234 lb/hr
PTE-Mass (ton/yr) = 1,024 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE-CO2e (lb/hr) = (234 lb/hr) + (0.0926 lb/hr) + (0.137 lb/hr)
PTE-CO2e (lb/hr) = 234 lb/hr
PTE-CO2e (ton/yr) = (234 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO2e (ton/yr) = 1,025 ton/yr

The greenhouse gas emissions from #2 fuel oil combustion and the greenhouse gas emissions from natural gas combustion from the regenerative thermal oxidizer C01 have also been calculated using this method. Please refer to the “FACILITY EMISSIONS” section below for all emissions.

Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker

Allowable Emissions: The 21 Maker (P31) was modified under construction permit 06-POY-091. The modification included allowing the volatile organic compound (VOC) emissions from the 21 Maker (P31) to bypass the regenerative thermal oxidizer (C01) when the volatile organic compound content in each coating being used is less than 0.5 percent by weight. Prior to the modification, the 21 Maker (P31) was subject to the best available control requirements (BACT) that was established based on the process using solvent-based coatings, per s. NR 405.08, Wis. Adm. Code. BACT required the emissions from the 21 Maker (P31) to be controlled by the oxidizer whenever this process was operating. Because the facility began using more water-based coatings, the volatile organic compound concentration in the vapors entering the oxidizer from the 21 Maker (P31) has decreased. The oxidizer was combusting natural gas to mostly vaporize water. As a result, the facility requested that these requirements be revised to allow emissions from the 21 Maker (P31) to bypass the regenerative thermal oxidizer (C01).

Revising these conditions to allow the oxidizer to be bypassed required a new prevention of significant deterioration (PSD) BACT determination under ch. NR 405, Wis. Adm. Code. A new PSD BACT determination was done for the review of construction permit 06-POY-091. The BACT determination included reviewing a variety of control technologies. These control technologies included a regenerative thermal oxidizer, thermal incinerator, catalytic incinerator, carbon adsorption, refrigerated condenser, water absorption/wet scrubber, and flare. The review concluded that the regenerative thermal oxidizer would be the most practical control technology, which is currently being used. However, it was not economically feasible to control emissions using a regenerative thermal oxidizer when using water based coatings. Because it is not economically feasible to control emissions when using water based coatings, a PSD BACT determination has been established when using coatings containing no more than 0.5 percent by weight of volatile organic compounds and another PSD BACT determination has been established when using coatings that contain more than 0.5 percent by weight of volatile organic compounds for the 21 Maker (P31).

Using coatings containing no more than 0.5% VOC by weight: When using coatings in the 21 Maker (P31) that contain no more than 0.5 percent by weight of volatile organic compounds, PSD BACT has been determined to be limiting the volatile organic compound content in the coatings to 0.5 percent by weight and bypassing the regenerative thermal oxidizer (C01), per s. NR 405.08, Wis. Adm. Code. In addition to these PSD BACT requirements, emissions from the 21 Maker (P31) can only bypass the regenerative thermal oxidizer (C01) for a maximum of 150 hours per month, averaged over any 12 rolling months to further restrict volatile organic compound emissions from the 21 Maker (P31). Volatile organic compound emissions are also subject to the latest available control technique and operating practices (LACT), per s. NR 424.03(2)(c), Wis. Adm. Code when the 21 Maker (P31) is using coatings that contain no more than 0.5 percent by weight volatile organic compounds. LACT has been determined to be meeting the PSD BACT requirements. Please refer to construction permit 06-POY-091 for additional information.

To demonstrate compliance, the facility is required to retain on site the formulation of chemicals for each coating solutions used and calculate the hours that the 21 Maker (P31) bypassed the regenerative thermal oxidizer (C01). The formulation information of the coatings will list the volatile organic compound content and will verify that the content is less than 0.5 percent by weight. Calculating the hours that the 21 Maker (P31) bypassed the regenerative thermal oxidizer (C01) each month will verify that the

emissions from the 21 Maker (P31) did not bypass the oxidizer for more than 150 hours per month, averaged over any 12 rolling months.

To verify compliance, the facility is required to record the volatile organic compound content (% wt.) of each coating used and of each material added to a coating, the mass of each coating used and each material added to a coating, and the time when the regenerative thermal oxidizer (C01) was bypassed. These records will show that the volatile organic compound content in all the coatings and materials used when the regenerative thermal oxidizer (C01) is bypassed does not exceed 0.5 percent by weight and the oxidizer is not bypassed for more than 150 hours per month, averaged over any 12 rolling months.

Since the coating usage is not restricted and the volatile organic compound content limit is in percent by weight and not pounds per gallon, records of the gallons of coating used and the volatile organic compound content in pounds per gallon is not necessary. Records of the volatile organic compound content of each coating used, volatile organic compound content of each material added to a coating, the mass of each coating used, and the mass of each material added to a coating is only necessary to verify compliance with the volatile organic compound content limit. As a result, the recordkeeping requirement has been revised:

Before Correction:
I.A.1.c.(2) The permittee shall collect and record the following information for each day:
(a) The amounts used, in gallons, and the organic compound contents, in pounds of volatile organic compound per gallon of coating as applied, of all coatings used in the Maker;
(b) The time that this operating scenario started;
(c) The time that this maker started to by-pass the oxidizer;
(d) The time that this operating scenario ended;
(e) The time that the maker exhaust is reconnected to the oxidizer;
(f) The hours of operation that the maker is operating under this scenario.
[s. NR 439.04, Wis. Adm. Code]

After Correction:
I.F.1.c.(3) **Records:** The permittee shall collect and record the following information for each day of operation:
(a) The volatile organic compound content (% wt.) of each coating used and of each material added to a coating;
(b) The mass of each coating used and each material added to a coating;
(c) The start time of when 21 Maker (P31) began using coatings containing no more than 0.5% VOC by weight;
(d) The start time of when 21 Maker (P31) began bypassing the thermal oxidizer (C01);
(e) The end time when 21 Maker (P31) stopped using coatings containing no more than 0.5% VOC by weight;
(f) The time when the 21 Maker (P31) exhaust was reconnected to the thermal oxidizer (C01); **And**
(g) The total hours that the thermal oxidizer (C01) was bypassed in each month, averaged over each 12 month period.
[s. NR 439.04(1)(d), Wis. Adm. Code, permit 06-POY-091]

<u>Using coatings containing more than 0.5% VOC by weight:</u> When using coatings in the 21 Maker (P31) containing more than 0.5 percent by weight volatile organic compounds, PSD BACT has been determined to be controlling volatile organic compound emissions by 90 percent, per s. NR 405.08, Wis. Adm. Code. In addition to these PSD BACT requirements, coating usages may not exceed 215,890 gallons per month, the monthly weighted average of the VOC content in coatings may not exceed 6.5 pounds per gallon as

applied, the use of cleanup solvents may not exceed 15,000 gallons per month, and the monthly weighted average of the VOC content in the cleanup solvents may not exceed 9.0 pounds per gallon to further restrict volatile organic compound emissions from the 21 Maker (P31). Volatile organic compound emissions are also required to be controlled by 85 percent, per s. NR 424.03(2)(b), Wis. Adm. Code when the 21 Maker (P31) is using coatings that contain more than 0.5 percent by weight volatile organic compounds. Meeting the PSD BACT requirements also satisfies the requirement to control emissions by 85 percent. Please refer to construction permit 06-POY-091 for additional information.

To demonstrate compliance, the facility is required to conduct a compliance emission test every two years, operate the oxidizer at a temperature of at least 1,457 degrees Fahrenheit or the operating temperature measured during the most recent stack test that demonstrated compliance, determine the residence time of combustion during the compliance emission test, maintain a residence time of combustion gases in the oxidizer of at least 0.75 seconds, use the oxidizer to control volatile organic compound emissions whenever cleanup solvents are used, and operate the regenerative thermal oxidizer (C01) according to the Paper and Other Web Coating Operations Maximum Achievable Control Technology (MACT) standard JJJJ requirements. These requirements will ensure that the oxidizer is operating properly and satisfying the control efficiency requirement.

To verify compliance, the facility is required to monitor and record the combustion temperature of the regenerative thermal oxidizer (C01) continuously, the hours that the oxidizer was bypassed, the total amount of coatings used, the total amount of cleanup solvents used, and the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents each month. These records will verify that the volatile organic compound emissions are being controlled by 90 percent and the coating usage, cleanup solvent usage, and volatile organic compound content limits are satisfied.

Further clarification has been added to the compliance demonstration and recordkeeping requirements related to the coating usage, cleanup solvent usage, and volatile organic compound content limits. To demonstrate compliance with the coating usage, cleanup solvent usage, and volatile organic compound content limits, the facility is required to calculate the amount of coatings used, the amount of cleanup solvents used, and the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents used each month. These calculations will ensure that the coating usage, cleanup solvent usage, and volatile organic compound content limits are satisfied each month.

The compliance emission test consists of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. If no changes were made to the coating bay ventilation system since the last capture test that would reduce the capture efficiency, then the facility can request a waiver to not conduct a capture test with the compliance emission test. The option to request a waiver to not conduct a capture efficiency test if there are no changes in the coating bay ventilation system that would decrease the overall capture of the ventilation system has been added to the compliance emission test requirement for the 21 Maker (P31).

I.F.2.b.(1) **Compliance Emission Test:** conduct a compliance emission test every two years to determine volatile organic compound emissions. Each test shall be performed within 90 days of the anniversary date of the initial test (09/27/98). If the permittee cannot conduct the compliance emission test within this time frame, an extension to conduct the test may be requested. The compliance emission test shall consist of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. The permittee may request a waiver to not conduct a capture test by demonstrating

that no changes have been made to the coating bay ventilation system, which would have reduced the overall capture of the ventilation system since the last capture test. [ss. NR 439.03 and NR 439.075, Wis. Adm. Code, permits 11-SJZ-179 and 612023940-P10]

As part of normal operation of the 21 Maker (P31), nozzles, rollers, feeders, and various other parts are occasionally cleaned. This type of cleaning involves manually cleaning portions of the maker, cleaning components of the maker in parts cleaners, or doing a complete flush of the system. Manual cleaning of the maker includes hand wiping portions of the maker with cleanup solvent. The amount of cleanup solvent used when hand cleaning portions of the maker is less than one gallon. Nozzles, rollers, feeders, and various other parts are cleaned in parts cleaners. A complete flush of the maker is a closed loop process and generates negligible emissions.

In addition to these compliance demonstration, monitoring, and recordkeeping requirements, the facility is also required to operate the regenerative thermal oxidizer (C01) according the Paper and Other Web Coating Operations MACT JJJJ standard. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for more information.

In addition to these volatile organic compound emission requirements, the volatile organic compound emissions from the entire facility will be limited to 249 tons per year, summed over a 12 month period after the issuance of this permit. After issuance of this permit, the facility will be considered a synthetic minor source for PSD purposes and will be treated as such for future projects. However, all PSD BACT limitations and BACT avoidance limitations established prior to the issuance of this permit will be retained.

Visible emissions are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. To demonstrate compliance, the facility is required to fire natural gas only in the regenerative thermal oxidizer (C01) and maker oven. The facility has verified that only natural gas is fired in the regenerative thermal oxidizer (C01) and maker oven because these units only have the ability to fire natural gas based on design.

The state hazardous air pollutant requirements applicable to the 21 Maker (P31) have been revised. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for the ch. NR 445, Wis. Adm. Code applicability.

<u>Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions:</u> The emissions are calculated below when using coatings containing no more than 0.5% by weight volatile organic compounds and when using coatings containing more than 0.5% by weight volatile organic compounds. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. The volatile organic compound emissions are calculated below.

Volatile Organic Compound Emissions From Coatings Containing No More Than 0.5% by Weight (Uncontrolled)
MTE (lb/hr) = 1,420 lb/hr
MTE (ton/yr) = (1,420 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 6,220 ton/yr
PTE (lb/hr) = (1,420 lb/hr) * (0.5%/100)
PTE (lb/hr) = 7.10 lb/hr

PTE (ton/yr) = (7.10 lb/hr) * (150 hr/month) * (12 month/yr) / (2,000 lb/ton)
PTE (ton/yr) = 6.39 ton/yr

Volatile Organic Compound Emissions From Coatings Containing More Than 0.5% by Weight (Controlled)
MTE (lb/hr) = 1,420 lb/hr
MTE (ton/yr) = (1,420 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 6,220 ton/yr
PTE (lb/hr) = (1,420 lb/hr) * (1-90%/100)
PTE (lb/hr) = 142 lb/hr
PTE (ton/yr) = 249 ton/yr

Natural Gas Combustion Emissions From Curing Oven
The method used to calculate the criteria pollutant and hazardous air pollutant emissions have not changed since operation permit 612023940-P01 was issued. Please refer to the preliminary determination for operation permit 612023940-P01 for more information.

The greenhouse gas emissions from the 21 Maker (P31) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu			
Carbon Dioxide (CO2)	53.02	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from 21 Maker (P31) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). The total heat input of the ovens is 18 million Btu per hour. Greenhouse gas emissions from 21 Maker (P31) are calculated below.

<u>Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (18 MMBtu/hr)
MTE (lb/hr) = 2,104 lb/hr
MTE (ton/yr) = (2,104 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 9,216 ton/yr
PTE (lb/hr) = 2,104 lb/hr
PTE (ton/yr) = 9,216 ton/yr
PTE-CO_2e (lb/hr) = (2,104 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 2,104 lb/hr
PTE-CO_2e (ton/yr) = (2,104 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 9,216 ton/yr

Methane (CH4) Emissions from Natural Gas Combustion:
MTE (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (18 MMBtu/hr)
MTE (lb/hr) = 0.0397 lb/hr
MTE (ton/yr) = (0.0397 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.174 ton/yr
PTE (lb/hr) = 0.0397 lb/hr
PTE (ton/yr) = 0.174 ton/yr
PTE-CO_2e (lb/hr) = (0.0397 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.833 lb/hr
PTE-CO_2e (ton/yr) = (0.833 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 3.65 ton/yr

Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:
MTE (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (18 MMBtu/hr)
MTE (lb/hr) = 0.00397 lb/hr
MTE (ton/yr) = (0.00397 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0174 ton/yr
PTE (lb/hr) = 0.00397 lb/hr
PTE (ton/yr) = 0.0174 ton/yr
PTE-CO_2e (lb/hr) = (0.00397 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 1.23 lb/hr
PTE-CO_2e (ton/yr) = (1.23 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 5.39 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE (lb/hr) = (2,104 lb/hr) + (0.0397 lb/hr) + (0.00397 lb/hr)
MTE (lb/hr) = 2,104 lb/hr
MTE (ton/yr) = (2,104 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 9,216 ton/yr
PTE (lb/hr) = 2,104 lb/hr
PTE (ton/yr) = 9,216 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE (lb/hr) = (2,104 lb/hr) + (0.833 lb/hr) + (1.23 lb/hr)
PTE (lb/hr) = 2,106 lb/hr
PTE (ton/yr) = (2,106 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 9,225 ton/yr

The greenhouse gas emissions from natural gas combustion from the regenerative thermal oxidizer C01 have also been calculated using this method. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P32, Stack S16, Control Device C03 — Coiled Web Maker

Allowable Emissions: Since the applicable particulate matter requirements for the Coiled Web Maker (P32) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Coiled Web Maker (P32) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means

particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Coiled Web Maker (P32) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from each resin coating station are subject to the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code. The allowable emission rate using the process weight rate equation is 7.09 pounds per hour. This allowable emission limit applies to total suspended particulate matter.

According to s. NR 415.05(2), Wis. Adm. Code, if the allowable emission limit in s. NR 415.05(2), Wis. Adm. Code is less restrictive than the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code, then the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code shall be used. The allowable emission limit most applicable to the Coiled Web Maker (P32) is 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code for each station. This emission limit equates to 69.6 pounds per hour using a stack gas flow rate of 41,000 actual cubic feet per minute (ACFM) and a stack gas temperature of 100 degrees Fahrenheit (^oF) according to the following:

Flow (SCFM) = ACFM * (T_{STP} + 460 / T_{Actual} + 460) * (P_{Actual} / P_{STP})
Flow (SCFM) = (41,000 ACFM) * [(68°F + 460) / (100°F + 460)] * [(1)/(1)]
Flow (SCFM) = 38,657 SCFM (standard cubic feet per minute)

Using a stack exhaust gas moisture content of zero percent, the flowrate of 38,657 SCFM equates to a dry standard cubic feet per minute (DSCFM) of 38,657 DSCFM according to the following:

Flow Rate (DSCFM) = Flow Rate (SCFM) * (1 – Stack Gas Moisture %/100)
Flow Rate (DSCFM) = (38,657 SCFM) * (1-0%/100)
Flow Rate (DSCFM) = 38,657 DSCFM

The allowable emission limit of 0.40 pounds of particulate matter per 1,000 pounds of gas equates to the following hourly limit:

Allowable Emission Rate (lb/hr) = (0.40 lb/1,000 lb) * (0.075 lb/ft^3) * (38,657 DSCFM) * (60 min/hr)
Allowable Emission Rate (lb/hr) = 69.6 lb/hr

The allowable emission rate of 7.09 pounds per hour, determined from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code is the most restrictive total suspended particulate matter limit.

The total suspended particulate matter and PM10 emissions were modeled for the review of operation permit 612023940-P01 and an exceedance of the National Ambient Air Quality Standard (NAAQS) was predicted. To avoid an exceedance of the NAAQS for total suspended particulate matter and PM10, particulate matter emissions from the Coiled Web Maker (P32) were limited to 1.0 pound per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this

emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 1.0 pound per hour limit.

The facility has requested to remove the 1.0 pound per hour total suspended particulate matter limit. Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removing the 1.0 pound per hour limit for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Total suspended particulate matter emissions from the Coiled Web Maker (P32) will still be limited to the most restrictive of 0.40 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1)(o), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. The following particulate matter requirement has been revised.

Before Correction:
I.I.1.a.(1) Emissions may not exceed 1.0 pounds per hour. [s. NR 415.05(1), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

After Correction:
I.G.1.a.(1) Particulate matter emissions are limited to the most restrictive of the following:[3]
(a) 0.40 pounds per 1,000 pounds of gas, **And**
(b) $E = 3.59 (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code]

The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter have not changed as a result of this review. Please refer to the preliminary determination for operation permit 612023940-P01 for more information.

To demonstrate compliance with the PM10 emission limit of 1.0 pound per hour, the facility will be required to not allow the inlet temperature of the wet electrostatic precipitator to exceed 175 degrees Fahrenheit. An inlet temperature of less than 175 degrees Fahrenheit will ensure that the wet electrostatic precipitator is operating properly and controlling emissions. The facility will also be required to shut down the Coiled Web Maker (P32) and the electrostatic precipitator if three or more secondary voltages in a bank are less than 4,500 volts. Shutting down the equipment if three or more secondary voltages in a bank are less than 4,500 volts will ensure that the wet electrostatic precipitator is operating at the highest efficiency and will be shut down if the wet electrostatic precipitator is operating at a lower efficiency. To verify compliance, the facility will be required to measure the inlet water temperature to the wet electrostatic precipitator every 15 minutes and monitor the secondary voltages. These records will verify that the wet electrostatic precipitator is operating efficiently and controlling emissions.

The state hazardous air pollutant requirements for pollutants emitted from the Coiled Web Maker (P32) have been revised. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for the ch. NR 445, Wis. Adm. Code applicability.

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements for Coiled Web Maker (P32).

[3] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: Emissions from Coiled Web Maker (P32) include particulate matter, PM10, PM2.5, and hazardous air pollutants. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P36, Stack S14, Control Device C01 — Pigment Mill Mix Area

Allowable Emissions: The Pigment Mill Mix Area (P36) is a process that has always operated at the facility but has never been indicated in previous reviews. The significance of this process has been evaluated in this review. This process includes the pigment mill itself, three mix tanks, and a Hi-Shear mix station. Particulate matter, volatile organic compounds, and hazardous air pollutants are generated from the Pigment Mill Mix Area (P36). Particulate matter emissions are insignificant. The volatile organic compound emissions from the Pigment Mill Mix Area (P36) exceed the ch. NR 407, Wis. Adm. Code significance threshold and are subject to ch. NR 424, Wis. Adm. Code requirements. Methyl isobutyl ketone (CAS 108-10-1) and xylene (CAS 1330-20-7) also exceed the ch. NR 407, Wis. Adm. Code significance thresholds. As a result, the Pigment Mill Mix Area (P36) is considered a significant emission unit for volatile organic compound, methyl isobutyl ketone, and xylene and will be included in construction permit 11-SJZ-179 and operation permit 612023940-P10. Volatile organic compound emissions exceed 15 pounds per day so the facility is required to control volatile organic compound emissions by 85 percent, per s. NR 424.03(2)(b), Wis. Adm. Code.

To demonstrate compliance, the facility is required to conduct compliance emission tests every two years and maintain a combustion temperature of 1,457 degrees Fahrenheit in the regenerative thermal oxidizer (C01). Conducting compliance emission tests and maintaining a combustion temperature of 1,457 degrees Fahrenheit will ensure that the regenerative thermal oxidizer (C01) is controlling volatile organic compound emissions by 85 percent.

The compliance emission test consists of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. If no changes were made to the coating bay ventilation system since the last capture test that would reduce the capture efficiency, then the facility can request a waiver to not conduct a capture test with the compliance emission test. The option to request a waiver to not conduct a capture efficiency test if there are no changes in the coating bay ventilation system that would decrease the overall capture of the ventilation system has been added to the compliance emission test requirement for the Pigment Mill Mix Area (P36).

I.H.2.b.(1) **Compliance Emission Test:** conduct a compliance emission test every two years to determine volatile organic compound emissions. Each test shall be performed within 90 days of the anniversary date of the initial test (09/27/98). If the permittee cannot conduct the compliance emission test within this time frame, an extension to conduct the test may be requested. The compliance emission test shall consist of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. The permittee may request a waiver to not conduct a capture test by demonstrating that no changes have been made to the coating bay ventilation system, which would have reduced the overall capture of the ventilation system since the last capture test. [ss. NR 439.03 and NR 439.075, Wis. Adm. Code, permits 11-SJZ-179 and 612023940-P10]

To verify compliance, the facility is required to measure and record the combustion temperature continuously and keep records of compliance emission test results and records of any other information

that shows compliance with the requirement to control volatile organic compound emissions by 85% overall.

Visible emissions are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will demonstrate compliance with the visible emission limit by meeting the compliance demonstrate requirements for volatile organic compound emissions.

The Pigment Mill and Mixing Process (P36) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Miscellaneous Coating Manufacturing in 40 CFR Part 63 Subpart HHHHH (63.7980-63.8105) because it is considered miscellaneous coating manufacturing operations located at a major source for federal hazardous air pollutants; manufacture coatings; process, use, or produce a hazardous air pollutant; and is not part of an affected source subject to another rule in 40 CFR Part 63, per 40 CFR 63.7985(a). Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for more information.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P40, Stack S260 — Columbia Press

Allowable Emissions: Historically, emissions from the Columbia Press (P40) have been controlled by the regenerative thermal oxidizer (C01). The review for construction permit 06-POY-091 determined that controlling volatile organic compound emissions by 85% is not feasible so the latest available control technique and operating practices (LACT) applies. Construction permit 06-POY-091 established LACT as operating according to good operating practices, per s. NR 424.03(2)(c), Wis. Adm. Code. In addition to this LACT requirement, the Columbia Press (P40) was limited to operating 400 hours per month, averaged over any 12 rolling months. The 400 hour per month operating limit was established in construction permit 06-POY-091 to further restrict volatile organic compound emissions and was not established for prevention of significant deterioration (PSD) purposes. The facility has requested that this limit be revised to restrict volatile organic compound emissions in another way. To restrict emissions in another way and to continue restricting emissions according to ch. NR 424, Wis. Adm. Code, the LACT requirement and the 400 hour per month limit have been combined and revised as part of the review for construction permit 11-SJZ-179 and operation permit 612023940-P10. LACT has been revised to be use low volatile organic compound containing raw material where applicable and volatile organic compound emissions are limited to 4.8 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. The 4.8 tons per year rate is the emission rate determined in the review for construction permit 06-POY-091 for the Columbia Press (P40). Volatile organic compound emissions will continue to be restricted with the 4.8 tons per year limit. This emission limit will also ensure that the criteria at which the LACT was established is satisfied. Combining the LACT requirement and the 400 hour per month limit is allowed under construction permit 11-SJZ-179, which is being issued in conjunction with operation permit 612023940-P10.

Since the LACT has been revised, the compliance demonstration requirements have also been clarified. To demonstrate compliance, the facility will be required to calculate the volatile organic compound

emissions each month and only allow trained personnel to operate the Columbia Press (P40). Requiring the facility to calculate the volatile organic compound emissions will ensure that the emissions are less than the emission limit and the criteria for establishing the LACT is satisfied. Requiring that trained individuals operate the Columbia Press (P40) will ensure that it is operated in the most efficient manner.

Since the LACT has been revised, the recordkeeping requirements have also been revised. The facility will be required to record the emission factors, process throughput, and any other information used to calculate the volatile organic compound emissions; the method used to calculate the volatile organic compound emissions; the monthly and total volatile organic compound emissions summed over a rolling 12 month period; and training records of each of the operators of the Columbia Press (P40). These records will allow the facility to show that the LACT and other emission limitations are being satisfied.

No other emission requirements for the Columbia Press (P40) have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for additional information about the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: Emissions from the Columbia Press (P40) consist of volatile organic compounds (VOC) only. The maximum and potential emissions are calculated using stack test data. The volatile organic compound emission rate was measured at 25 parts per million (ppm), as propane at a stack exhaust gas flow rate of 6,422 standard cubic feet per minute (scfm). Using the relationship that 1 pound (lb)-mole of an ideal gas occupies 385 standard cubic feet at standard temperature and pressure and the molecular weight of propane is 44 pounds per pound-mole, 25 ppm equates to 1.10 pounds per hour.

MTE (lb/hr) = (25 lb VOC/1,000,000 lb propane) * (6,422 scf/min) * (1 lb-mole/385 scf) * (44 lb propane/lb-mole propane) * (60 min/hr)
MTE (lb/hr) = 1.10 lb/hr
MTE (ton/yr) = (1.10 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 4.83 ton/yr
PTE (lb/hr) = 1.10 lb/hr
PTE (ton/yr) = 4.80 ton/yr

Please refer to the “FACILITY EMISSIONS” section below for all emissions.

Process P44, Stack S34, Control Device C11 — Safety Walk Maker

Allowable Emissions: Since the applicable particulate matter requirements for the Safety Walk Maker (P44) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Safety Walk Maker (P44) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Safety Walk Maker (P44) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from the Safety Walk Maker (P44) are limited to the most restrictive of the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code and 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code, per s. NR 415.05(2), Wis. Adm. Code.

The total suspended particulate matter and PM10 emissions were modeled for the review of operation permit 612023940-P01 and an exceedance of the National Ambient Air Quality Standard (NAAQS) was predicted. To avoid an exceedance of the NAAQS for total suspended particulate matter and PM10, particulate matter emissions from the Safety Walk Maker (P44) were limited to 0.15 pounds per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 0.15 pound per hour limit.

The facility has requested to remove the 0.15 pound per hour total suspended particulate matter limit. Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removing the 0.15 pound per hour limit for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Total suspended particulate matter emissions from the Safety Walk Maker (P44) will still be limited to the most restrictive of 0.40 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1)(o), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. The following particulate matter requirement has been revised.

<u>Before Correction:</u>
I.K.1.a. (1) Emissions may not exceed 0.15 pound per hour. [s. NR 415.05(2), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

<u>After Correction:</u>
I.J.1.a.(1) **Limit:** Particulate matter emissions are limited to the most restrictive of the following:[4]
(a) 0.40 pounds per 1,000 pounds of gas **And**
(b) $E = 3.59\ (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[s. NR 415.05(1)(o), and NR 415.05(2), Wis. Adm. Code]

I.J.2.a.(1) **Limit:** PM10 emissions are limited to 0.15 pound per hour.[5] [s. 285.65(3), Wis. Stats. and ss. NR 404.08(2), Wis. Adm. Code]

The compliance demonstration requirements related to the pressure drop across the baghouse (C11) have been updated. To demonstrate compliance with the total suspended particulate matter emission limit, the facility is required to maintain a pressure drop greater than one inch of water column. The facility has indicated that the pressure drop can be less than 1 inch of water column after the bags in the baghouse are

[4] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

[5] The 0.15 pound per hour emission limit was established in operation permit 612023940-P01 to satisfy the National Ambient Air Quality Standard (NAAQS) for PM10.

replaced. The baghouse manufacturer considers this to be normal and not an indication of a malfunction. As a result, the following note has been added to the compliance demonstration requirements.

I.J.1.b.(1) **Pressure Drop: Maintain:** the pressure drop across the baghouse (C11) above 1 inch of water column gauge pressure or another range approved by the department in writing. **If:** the pressure drop across the baghouse is less than 1 inch of water column, **Then:** take appropriate investigative and corrective actions in accordance with the manufacturer's recommendations. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
Note: Pressure drop less than the minimum above, when due to replacement of filter bags, is not a deviation and should not be reported on the semiannual deviation reports. After bag replacement, the pressure drop must return to at least the minimum within 14 equipment operating days, or corrective actions must be taken.

The recordkeeping and monitoring requirements for particulate matter have not changed as a result of this review. Please refer to the preliminary determination for operation permit 612023940-P01 for more information.

To demonstrate compliance with the PM10 emission limit of 0.15 pound per hour, the facility will be required operate baghouse (C11) when the Safety Walk Maker (P44) is operating and maintain a pressure drop across the baghouse above 1 inch of water column gauge pressure or another range approved by the department in writing. The pressure drop across the baghouse above 1 inch of water column gauge pressure is consider the normal pressure drop and is based on the manufacturer's recommendations. If the pressure drop is less than 1 inch of water column, then the facility will be required to take the appropriate investigative and corrective actions in accordance with the manufacturer's recommendations. Operating the baghouse at a pressure drop greater than 1 inch of water column and taking action according to the manufacturer's recommendations when the pressure drop is less than 1 inch of water column will ensure that the baghouse is operating properly. To verify compliance, the facility will be required to record the pressure drop across the baghouse once for every 8 hours of operation or once per day of operation, whichever yields the greater number of measurements. Recording the pressure drop will verify that the baghouse is operating properly and the PM10 emissions are being controlled.

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements for the Safety Walk Maker (P44).

Process P45, Stack S36, Control Device C06 — Mineral Handling Area
Allowable Emissions: Since the applicable particulate matter requirements for the Mineral Handling Area (P45) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Mineral Handling Area (P45) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Mineral Handling Area (P45) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from the Mineral Handling Area (P45) are limited to the most restrictive of the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code and 0.20 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(m), Wis. Adm. Code, per s. NR 415.05(2), Wis. Adm. Code.

The total suspended particulate matter and PM10 emissions were modeled for the review of operation permit 612023940-P01 and an exceedance of the National Ambient Air Quality Standard (NAAQS) was predicted. To avoid an exceedance of the NAAQS for total suspended particulate matter and PM10, particulate matter emissions from the Mineral Handling Area (P45) were limited to 1.5 pounds per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 1.5 pounds per hour limit.

The facility has requested to remove the 1.5 pound per hour total suspended particulate matter limit. Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removing the 1.5 pound per hour limit for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Total suspended particulate matter emissions from the Mineral Handling Area (P45) will still be limited to the most restrictive of 0.20 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1)(m), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. The following particulate matter requirement has been revised.

<u>Before Correction:</u>
I.L.1.a.(1) Emissions may not exceed 1.5 pound per hour. [s. NR 415.05(2), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

<u>After Correction:</u>
I.K.1.a.(1) **Limit:** Particulate matter emissions are limited to the most restrictive of the following:[6]
(a) 0.20 pounds per 1,000 pounds of gas **And**
(b) $E = 3.59\ (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[s. NR 415.05(1)(m), and NR 415.05(2), Wis. Adm. Code]

I.K.2.a.(1) **Limit:** PM10 emissions are limited to 1.5 pounds per hour.[7] [s. 285.65(3), Wis. Stats. and ss. NR 404.08(2), Wis. Adm. Code]

The compliance demonstration requirements related to the pressure drop across the baghouse (C06) have been updated. To demonstrate compliance with the total suspended particulate matter emission limit, the facility is required to maintain a pressure drop greater than 1 inch of water column. The facility has indicated that the pressure drop can be less than 1 inch of water column after the bags in the baghouse are

[6] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

[7] The 0.15 pound per hour emission limit was established in operation permit 612023940-P01 to satisfy the National Ambient Air Quality Standard (NAAQS) for PM10.

replaced. The baghouse manufacturer considers this to be normal and not an indication of a malfunction. As a result, the following note has been added to the compliance demonstration requirements.

I.K.1.b.(1) **Pressure Drop: Maintain:** the pressure drop across the baghouse (C06) above 1 inch of water column gauge pressure or another range approved by the department in writing. **If:** the pressure drop across the baghouse is less than 1 inch of water column, **Then:** take appropriate investigative and corrective actions in accordance with the manufacturer's recommendations. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
Note: Pressure drop less than the minimum above, when due to replacement of filter bags, is not a deviation and should not be reported on the semiannual deviation reports. After bag replacement, the pressure drop must return to at least the minimum within 14 equipment operating days, or corrective actions must be taken.

The recordkeeping and monitoring requirements for particulate matter have not changed as a result of this review. Please refer to the preliminary determination for operation permit 612023940-P01 for more information.

To demonstrate compliance with the PM10 emission limit of 1.5 pounds per hour, the facility will be required operate baghouse (C06) when the Mineral Handling Area (P45) is operating and maintain a pressure drop across the baghouse above 1 inch of water column gauge pressure or another range approved by the department in writing. The pressure drop across the baghouse above 1 inch of water column gauge pressure is consider the normal pressure drop and is based on the manufacturer's recommendations. If the pressure drop is less than 1 inch of water column, then the facility will be required to take the appropriate investigative and corrective actions in accordance with the manufacturer's recommendations. Operating the baghouse at a pressure drop greater than 1 inch of water column and taking action according to the manufacturer's recommendations when the pressure drop is less than 1 inch of water column will ensure that the baghouse is operating properly. To verify compliance, the facility will be required to record the pressure drop across the baghouse once for every 8 hours of operation or once per day of operation, whichever yields the greater number of measurements. Recording the pressure drop will verify that the baghouse is operating properly and the PM10 emissions are being controlled.

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements for the Mineral Handling Area (P45).

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The maximum and potential emissions have not changed as a result of this review. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P50, Stack S42, Control Device C07 — Thinsulate Maker
As part of the review for the installation of Thinsulate Maker (P69), the facility conducted an internal study to determine the physical characteristics of the material used in the existing Thinsulate Maker (P50). The study was done on the material used in Thinsulate Maker (P50) since this line is similar to Thinsulate Maker (P69). As a result of the study, the description of the materials used and the emissions from the Thinsulate Maker (P50) have been updated as a result of this review.

The internal study done by the facility involved collecting air samples and analyzing the raw material used in the process. Air samples were collected at the air intake prior to the exhaust ductwork and the

control equipment. The analysis of raw material used in the process included evaluating the material collected, determining the size of the fibers used in the process, and determining the size of particles emitted from the process. The results of the internal study were used to update the particulate matter emissions for the Thinsulate Maker (P50).

Uncombined fibers and combined fibers are used to produce the Thinsulate. The samples collected for the internal study showed that the uncombined fibers are greater than 10 micrometers in all directions and greater than 100 micrometers in one direction. The uncombined fibers are not circular and are rigid. The uncombined fibers are manufactured to a specific dimension and rigid quality to achieve the appropriate Thinsulate product quality so it is unlikely that the uncombined fibers will break into pieces less than 10 micrometers in size. Since the uncombined fibers are greater than 10 micrometers in all directions, the uncombined fibers are not considered PM10. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. Also, the uncombined fibers are not likely to become airborne because the fibers are greater than 100 micrometers in one direction. As a result, the uncombined fiber portion of the process does not generate particulate matter emissions 100 micrometers in size and less. If the uncombined fibers do become airborne, they will be controlled by two roll filters.

Thinsulate Maker (P50) does not emit PM2.5 and PM10 from the combined fiber portion of the process due to the size of the material emitted. The solid material emitted from the Thinsulate Maker (P50) is more similar in shape to a fiber rather than a particle because the length to diameter ratio is greater than 3 to 1. The air samples collected for the internal study showed that the fibers emitted from the Thinsulate Maker (P50) are less than 2.5 micrometers in diameter and greater than 10 micrometers in length. Because of the size, it is not likely the fibers will pass through the opening of the sampling equipment and have the potential to plug the sampling equipment when collecting material to determine PM2.5 and PM10 emissions. Since it is not likely that fibers 10 micrometers in size and less can be collected by sampling equipment to determine PM2.5 and PM10 emissions, fibers 10 micrometers in size and less do not exist. As a result, the Thinsulate Maker (P50) does not emit PM2.5 and PM10. Based on the amount of information available at the time of this review, the facility will be required to continue operating the two roll filters. The roll filters are capable of controlling material 10 micrometers to 100 micrometers in size by 99 percent.

Allowable Emissions: Since the applicable particulate matter requirements for the Thinsulate Maker (P50) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Thinsulate Maker (P50) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5),

Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Thinsulate Maker (P50) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from the Thinsulate Maker (P50) are limited to the most restrictive of the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code and 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code, per s. NR 415.05(2), Wis. Adm. Code.

The total suspended particulate matter and PM10 emissions were modeled for the review of operation permit 612023940-P01 and an exceedance of the National Ambient Air Quality Standard (NAAQS) was predicted. To avoid an exceedance of the NAAQS for total suspended particulate matter and PM10, particulate matter emissions from the Thinsulate Maker (P50) were limited to 1.0 pounds per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Because there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. The facility has conducted an internal study to determine the characteristics of the fibers used in this process since the emissions were modeled. Based on the fiber size determined in the internal study, the Thinsulate Maker (P50) does not emit PM10 emissions. As a result, the 1.0 pounds per hour particulate matter emission limit will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10. The following particulate matter emission requirement has been revised.

Before Correction:
I.N.1.a. (1) Emissions may not exceed 1.0 pound per hour. [s. NR 415.05(2), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

After Correction:
I.L.1.a.(1) **Limit:** Particulate matter emissions are limited to the most restrictive of the following:[8]
(a) 0.40 pounds per 1,000 pounds of gas **And**
(b) $E = 3.59\ (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[s. NR 415.05(1)(o), and NR 415.05(2), Wis. Adm. Code]

The compliance demonstration requirements related to the pressure drop across the Two Stage Roll Filter System (C07) have been updated. The facility has indicated that the normal pressure drop is less than 1.0 inch of water column gauge pressure, not greater than 1.0 inch of water column gauge pressure based on design. As a result, the pressure drop across the fabric roll filters has been changed to less than 1.0 inch of water column gauge pressure. The following changes have been made to the operation permit:

Before Correction:
I.N.1.b.(1) The pressure drop across the fabric roll filters collector shall be maintained above 1.0 inches of water column gauge pressure. If the pressure drop across the roll filter is less than 1.0 inches of water column, the permittee shall take appropriate investigative and corrective actions in accordance with the Malfunction Prevention and Abatement Plan required for the baghouse. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

[8] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

After Correction:
I.L.1.b.(2) **Pressure Drop: Maintain:** the pressure drop across the Two Stage Roll Filter System (C07) less than 1.0 inch of water column gauge pressure or another range approved by the department in writing. **If:** the pressure drop across the roll filter is greater than 1.0 inches of water column, **Then:** investigate and make the necessary repairs as soon as practical. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

No other changes have been made to the requirements applicable to the Thinsulate Maker (P50). Please refer to the preliminary determination for operation permit 612023940-P01 for information about the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: Thinsulate Maker (P50) generates particulate matter emissions only. The maximum and potential emissions from the Thinsulate Maker (P50) have been updated as a result of this review. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning
Allowable Emissions: Since the applicable particulate matter requirements for the Salt Bath Parts Cleaning (P52) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Salt Bath Parts Cleaning (P52) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04(5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Salt Bath Parts Cleaning (P52) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from the Salt Bath Parts Cleaning (P52) are limited to the most restrictive of the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code and 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code, per s. NR 415.05(2), Wis. Adm. Code.

The total suspended particulate matter and PM10 emissions were modeled for the reviews of construction permit 91-POY-102 and operation permit 612023940-P01. To satisfy the National Ambient Air Quality Standard (NAAQS) for total suspended particulate matter and PM10, particulate matter emissions from the Salt Bath Parts Cleaning (P52) were limited to 1.0 pound per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 1.0 pound per hour limit.

The facility has requested to remove the 1.0 pound per hour total suspended particulate matter limit. Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removing the 1.0 pound per hour limit for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Total suspended particulate matter emissions from the Salt Bath Parts Cleaning (P52) will still be limited to the most restrictive of 0.40 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1)(o), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. The following particulate matter requirement has been revised.

Before Correction:
I.O.1.a.(1) Emissions may not exceed 1.0 pound per hour. [s. NR 415.05(2), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

After Correction:
I.M.1.a.(1) **Limit:** Particulate matter emissions are limited to the most restrictive of the following:[9]
(a) 0.40 pounds per 1,000 pounds of gas **And**
(b) $E = 3.59 (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[s. NR 415.05(1)(o), and NR 415.05(2), Wis. Adm. Code]

I.M.2.a.(1) **Limit:** PM10 emissions are limited to 1.0 pounds per hour.[10] [s. 285.65(3), Wis. Stats. and s. NR 404.08(2), Wis. Adm. Code]

To demonstrate compliance with the particulate matter and PM10 emission limits, the facility will be required to maintain the pressure drop across the venturi scrubber (C09) at a minimum of 29 inches of water column gauge pressure or another range approved by the department in writing. Maintaining a pressure drop of at least 29 inches of water column gauge pressure will ensure that the venturi scrubber is operating properly. To also reduce particulate matter and PM10 emissions, the facility will be required to limit the amount of organic resins contained on metal parts to no more than 12 pounds over each hour of operation. The facility will be required to record each batch of parts before cleaning.

The facility is also required to measure and record the pressure drop across the venture scrubber (C09) once per shift to demonstrate compliance with the particulate matter and PM10 emission limits. The facility has indicated that the Salt Bath Parts Cleaning (P52) is a batch process. The time to process each batch depends on the amount of contaminants contained on the parts and varies considerably. The facility also indicated that this process operates very infrequent and does not operate 24 hours per day or seven days per week. Because this is a batch process, the time to process each batch varies, the process does not operate every shift, and the operation of this process is completely random, monitoring and recording the pressure drop has been changed to once per batch. This will verify that the venture scrubber (C09) is operating for each batch. The following requirement has been revised.

Before Correction:
I.O.1.b.(3) The permittee shall monitor and record the pressure drop across the venturi at least once every shift [s. NR 439.055, Wis. Adm. Code]

[9] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

[10] The 0.15 pound per hour emission limit was established in construction permit 91-POY-102 and operation permit 612023940-P01 to satisfy the National Ambient Air Quality Standard (NAAQS) for PM10.

After Correction:
I.M.1.b.(3) **Measure:** the pressure drop across the venturi scrubber once per batch. [s. NR 439.055(5), Wis. Adm. Code]

I.M.1.c.(3) **Record:** the pressure drop across the venturi scrubber once per batch. [ss. NR 439.04(1)(a)1. and NR 439.055(5), Wis. Adm. Code]

The facility is required to measure the pH of the scrubber fluid once every 15 minutes of operation for the Salt Bath Parts Cleaning (P52) to demonstrate compliance with the hydrogen chloride emission limit. The facility has indicated that each batch may take less than 15 minutes to process. The facility has requested that the pH be measured once per batch. Since the operation is a batch process and the processing time for each batch may take less than 15 minutes, measuring and recording the pH has been changed to once per batch. The following requirement has been updated.

Before Correction:
I.O.2.b.(2) The permittee shall measure and record the pH of the scrubber fluid once for every 15 minutes of source operations. **[ss. NR 439.055 and NR 439.055(5), Wis. Adm. Code]**

After Correction:
I.M.3.b.(2) **Measure:** the pH of the scrubber fluid once per batch. [s. NR 439.055(5), Wis. Adm. Code]

I.M.3.c.(3) **Record:** the pH of the scrubber fluid once per batch. [ss. NR 439.04(1)(a) and NR 439.055(5), Wis. Adm. Code]

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The maximum and potential emissions from the Salt Bath Parts Cleaning (P52) have not changed as a result of this review. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P54, Stack S54 — Belt Making Area

Allowable Emissions: Volatile organic compound emissions exceed 15 pounds per day so the Belt Making Area (P54) is subject to ch. NR 424, Wis. Adm. Code requirements. Historically, the facility satisfied the ch. NR 424, Wis. Adm. Code requirements by controlling volatile organic compound emissions by 85 percent, per s. NR 424.03(2)(b), Wis. Adm. Code. The facility conducted a Latest Available Control Technique and Operating Practices (LACT) analysis to determine the feasibility of controlling volatile organic compound emissions from the Belt Making Area (P54). The facility submitted the LACT analysis in the application for operation permit 612023940-P10. The control technologies reviewed in the LACT analysis include regenerative thermal oxidation, catalytic oxidation, and carbon absorption. The cost included in the LACT analysis includes the cost of natural gas and electricity only and does not include purchase cost of the regenerative thermal oxidation or maintenance costs. The control technology with the lowest cost to control volatile organic compound emissions is regenerative thermal oxidation. The facility determined that continually controlling volatile organic compound emissions using the regenerative thermal oxidizer (C01) is considered infeasible. As a result, volatile organic compound emissions are subject to LACT. LACT has been determined to be using low

volatile organic compound containing raw material where applicable and restricting volatile organic compound emissions to 28 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. The volatile organic compound emission limit of 28 tons per year is the emission rate that was used to determine the feasibility of controlling the emissions by 85 percent. To ensure that the feasibility of not controlling emissions is satisfied, emissions will be limited to 28 tons per year, summed over a rolling 12 month period. These LACT requirements will replace the requirement to control emissions by 85 percent.

The facility is required to not operate the Belt Making Area (P54) uncontrolled for more than 92 hours per month. This requirement was established in operation permit 612023940-P01. Since the volatile organic compound emissions from the Belt Making Area (P54) are subject to LACT, requiring the facility to not control for more than 92 hours per month is no longer appropriate. As a result, this requirement will also be replaced by the LACT requirements. Replacing this operating requirement with LACT will be approved as part of the review for construction permit 11-SJZ-179. Volatile organic compound emissions from the Belt Making Area (P54) are still limited to 200 pounds per day.

Now that the emissions will no longer be controlled by the regenerative thermal oxidizer (C01), the emissions are now vented to stack S54. The stack information has been updated.

To demonstrate compliance, the facility will be required to calculate the volatile organic compound emissions each month. Requiring the facility to calculate the volatile organic compound emissions will ensure that the emissions are less than the emission limits and the criteria for establishing LACT will be satisfied.

The recordkeeping requirements related to the thermal oxidizer have been replaced with the requirements to record the emission factors, process throughput, and any other information used to calculate the volatile organic compound emissions; the method used to calculate the volatile organic compound emissions; the volatile organic compound emissions from adhesives and thinners; and the monthly and total volatile organic compound emissions summed over a rolling 12 month period from the entire process. This will allow the facility to show that the LACT and other emission limitations are satisfied on a continuous basis.

No other emission requirements for the Belt Making Area (P54) have changed. Volatile organic compound emissions are still limited to 200 pounds per day, averaged over any rolling 12 month period to ensure that volatile organic compound emissions from the Belt Making Area (P54) remain less than 40 tons per year and the installation of the Belt Making Area (P54) continues to be considered a minor modification to a major PSD source. Please refer to the preliminary determination for operation permit 612023940-P01 for additional information about the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P55, Stack S14, Control Device C01 — 24CC Maker

Allowable Emissions: The installation of the 24CC Maker (P55) was installed under construction permit 98-POY-037. Construction permit 98-POY-037 established the coating usage limit of 68,922 pounds per

month, averaged over any 12 consecutive month period, the cleanup solvent usage limit of 220 gallons per month, averaged over any 12 consecutive month period, the volatile organic compound content limit in the coatings of 0.6 pound of VOC per pound of coating as applied, and the volatile organic compound content limit in the cleanup solvents of 9.0 pounds per gallon. Also established is the control of volatile organic compound emissions by 85 percent, per s. NR 424.03(2)(b), Wis. Adm. Code. These limits equate to an emission rate of 39 tons per year according to the following:

Emission Rate (ton/yr) = [(68,922 lb/month) * (0.6 lb/lb)] + [(220 gal/month) * (9.0 lb/gal)] * (12 months/yr) / (2,000 lb/ton) * (1-85%/100)
Emission Rate (ton/yr) = 39 tons/yr

These coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents were established to restrict volatile organic compound emissions to 39 tons per year and allow the installation of the 24CC Maker (P55) to be considered a minor modification to a major prevention of significant deterioration (PSD) source. To further allow the use of water based coatings and cleanup solvents and to ensure that the installation of the 24CC Maker remains a minor modification to a major prevention of significant deterioration (PSD) source, the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents have been replaced with an equivalent volatile organic compound emission limit of 39 tons per year, summed over a rolling 12 month period. This replacement of the coating and cleanup solvent usage limits and the volatile organic compound content limits for the coatings and cleanup solvents with the equivalent volatile organic compound emission limit of 39 tons per year, summed over a rolling 12 month period is allowed under this review because this review includes a construction permit and an operation permit, identified as construction permit 11-SJZ-179 and operation permit 612023940-P10.

To demonstrate compliance with the 39 ton per year emission limit, the facility will be required to calculate the volatile organic compound emissions from the 24CC Maker (P55) each month. The facility will also be required to calculate the volatile organic compound emissions from the 24CC Maker (P55) over a rolling 12 month period. Calculating the volatile organic compound emissions will ensure that the facility is tracking the emissions and that the emissions are not exceeding 39 tons per year each month.

To verify compliance, the facility will be required to keep records of the information and method used to calculate the emissions, the volatile organic compound emissions calculated for each month, and the volatile organic compound emissions calculated for each rolling 12 month period. These records will show that the facility is calculating the emissions and that the emissions are not exceeding 39 tons per year on a monthly basis.

The revised requirements are listed below.

Before Correction:
I.G.1.a.(2)(a) Coating usage may not exceed 68,922 pounds per month, averaged over any 12 consecutive month period;
(b) Monthly weighted average of VOC content in coatings may not exceed 0.6 pound of VOC per pound of coating as applied;
(c) Use of cleanup solvents may not exceed 220 gallons per month, averaged over any 12 consecutive month period;
(d) Monthly weighted average of VOC content of cleanup solvents may not exceed 9.0 pounds per gallon.
[s. 285.65(7), Wis. Stats.]

I.G.1.b.(2) The permittee shall keep daily record of:
(i) amounts of coating usages;
(ii) VOC content in coating;
(iii) amounts of cleanup solvent usages;
(iv) VOC content in cleanup solvent used.

After Correction:
I.O.1.a.(2) **Limit:** Volatile organic compound emissions are limited to 39 tons per year, summed over a rolling 12 month period.[11] [s. 285.65(7), Wis. Stats., permit 11-SJZ-179]

I.O.1.b.(3) **Calculate:** the monthly volatile organic compound emissions according to one of the following methods:

(a) **X = (EF) * (Throughput) / (2,000 lb/ton)**

where,
X = monthly volatile organic compound emissions (ton VOC/month)
EF = emission factor (lb VOC/gal coating)
Throughput = material throughput (gal/month) **Or**
(b) another method approved by the department in writing
[s. NR 407.09(4)(a)1., Wis. Adm. Code]

I.O.1.b.(4) **Calculate:** the total volatile organic compound emissions over a rolling 12 month period by summing the emissions of the current month with those of the preceding 11 months, using the following equation:

$$\mathbf{E_{total} = \Sigma X_n}$$

where,
$\mathbf{E_{total}}$ = tons of volatile organic compound emissions emitted over a rolling 12 month period (ton/yr)
$\mathbf{X_n}$ = tons of volatile organic compound emissions in a month as calculated in condition I.O.1.b.(3) (ton/month)
[s. NR 407.09(4)(a)1., Wis. Adm. Code]

I.O.1.c.(4) **Recordkeeping:** The facility shall keep records of the following:
(a) emission factors, process throughput, and any other information used to calculate the volatile organic compound emissions,
(b) the method used to calculate the volatile organic compound emissions,
(c) the monthly volatile organic compound emissions (ton/month), **And**
(d) the total volatile organic compound emissions summed over each rolling 12 month period.(ton/yr).
[s. NR 439.04(1)(d), Wis. Adm. Code]

The facility is also required to conduct compliance emission tests every two years to demonstrate compliance with the emission limits. The compliance emission test consists of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. If no changes were made to the coating bay ventilation system since the last capture test that would reduce the capture efficiency, then the facility can request a waiver to not conduct a capture test with the compliance

[11] Volatile organic compound emissions are restricted to less than 40 tons per year to allow the installation of the 24CC Maker (P55) under construction permit 98-POY-037 to be considered a minor modification to a major PSD source.

emission test. The option to request a waiver to not conduct a capture efficiency test if there are no changes in the coating bay ventilation system that would decrease the overall capture of the ventilation system has been added to the compliance emission test requirement for the 24CC Maker (P55).

I.O.1.b.(1) **Compliance Emission Test:** conduct a compliance emission test every two years to determine volatile organic compound emissions. Each test shall be performed within 90 days of the anniversary date of the initial test (09/27/98). If the permittee cannot conduct the compliance emission test within this time frame, an extension to conduct the test may be requested. The compliance emission test shall consist of a destruction efficiency test of the thermal oxidizer and a capture efficiency test of the coating bay ventilation system. The permittee may request a waiver to not conduct a capture test by demonstrating that no changes have been made to the coating bay ventilation system, which would have reduced the overall capture of the ventilation system since the last capture test. [ss. NR 439.03 and NR 439.075, Wis. Adm. Code, permits 11-SJZ-179 and 612023940-P10]

As part of normal operation of the 24CC Maker (P55), nozzles, rollers, feeders, and various other parts are occasionally cleaned. This type of cleaning involves manually cleaning portions of the maker, cleaning components of the maker in parts cleaners, or doing a complete flush of the system. Manual cleaning of the maker includes hand wiping portions of the maker with cleanup solvent. The amount of cleanup solvent used when hand cleaning portions of the maker is less than one gallon. Nozzles, rollers, feeders, and various other parts are cleaned in parts cleaners. A complete flush of the maker is a closed loop process and generates negligible emissions.

In addition to these compliance demonstration, monitoring, and recordkeeping requirements, the facility is also required to operate the regenerative thermal oxidizer (C01) according the Paper and Other Web Coating Operations MACT JJJJ standard. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for more information.

In addition to these volatile organic compound emission requirements, the volatile organic compound emissions from the entire facility will be limited to 249 tons per year, summed over a 12 month period after the issuance of this permit. After issuance of this permit, the facility will be considered a synthetic minor source for PSD purposes and will be treated as such for future projects. However, all PSD BACT limitations and BACT avoidance limitations established prior to the issuance of this permit will be retained.

No other changes have been made to the other requirements for the 24CC Maker (P55). Please refer to the preliminary determination for operation permit 612023940-P01 for details about the other emission requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The only change to the emissions from the 24CC Maker (P55) is greenhouse emissions have been calculated from this process. The greenhouse gas emissions from the 24CC Maker (P55) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	Emission Factor-Natural Gas	Emission Factor Reference	Global Warming Potential (CO_2e/CO_2)	Global Warming Potential Reference

	kg/MMBtu			
Carbon Dioxide (CO2)	53.02	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from 24CC Maker (P55) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). The total heat input of the ovens is 5 million Btu per hour. Greenhouse gas emissions from 24CC Maker (P55) are calculated below.

<u>Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (5 MMBtu/hr)
MTE (lb/hr) = 584 lb/hr
MTE (ton/yr) = (584 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 2,560 ton/yr
PTE (lb/hr) = 584 lb/hr
PTE (ton/yr) = 2,560 ton/yr
PTE-CO_2e (lb/hr) = (584 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 584 lb/hr
PTE-CO_2e (ton/yr) = (584 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 2,560 ton/yr

<u>Methane (CH4) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (5 MMBtu/hr)
MTE (lb/hr) = 0.011 lb/hr
MTE (ton/yr) = (0.011 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0483 ton/yr
PTE (lb/hr) = 0.011 lb/hr
PTE (ton/yr) = 0.0483 ton/yr
PTE-CO_2e (lb/hr) = (0.011 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.231 lb/hr
PTE-CO_2e (ton/yr) = (0.231 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1.01 ton/yr

<u>Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (5 MMBtu/hr)
MTE (lb/hr) = 0.0011 lb/hr
MTE (ton/yr) = (0.0011 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.00483 ton/yr
PTE (lb/hr) = 0.0011 lb/hr
PTE (ton/yr) = 0.00483 ton/yr
PTE-CO_2e (lb/hr) = (0.0011 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 0.342 lb/hr
PTE-CO_2e (ton/yr) = (0.342 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1.50 ton/yr

<u>Greenhouse Gas Mass Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (584 lb/hr) + (0.011 lb/hr) + (0.0011 lb/hr)

MTE (lb/hr) = 584 lb/hr
MTE (ton/yr) = (584 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 2,560 ton/yr
PTE (lb/hr) = 584 lb/hr
PTE (ton/yr) = 2,560 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE (lb/hr) = (584 lb/hr) + (0.231 lb/hr) + (0.342 lb/hr)
PTE (lb/hr) = 585 lb/hr
PTE (ton/yr) = (585 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 2,562 ton/yr

There are no changes in the maximum and potential emissions from the 24CC Maker (P55). Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P56, Stacks S14, S230, S240, Control Device C01 — 25 Maker

Allowable Emissions: The 25 Maker (P56) was modified under construction permit 06-POY-091. The modification included allowing emissions to bypass the regenerative thermal oxidizer (C01) when the volatile organic compound (VOC) content in each coating being used is less than 0.5 percent by weight. Prior to the modification of the 25 Maker (P56), this process was subject to the best available control technology requirements (BACT) that were established based on the process using solvent-based coatings, per s. NR 405.08, Wis. Adm. Code. BACT required the emissions from the 25 Maker (P56) to be controlled by the regenerative thermal oxidizer (C01) whenever this process was operating. Because the facility started using more water-based coatings, the volatile organic compound concentration in the vapors entering the oxidizer from the 25 Maker (P56) has decreased. The oxidizer was combusting natural gas to mostly vaporize water. As a result, the facility requested that these requirements be revised to allow emissions from the 25 Maker (P56) to bypass the regenerative thermal oxidizer (C01).

Revising these conditions to allow the oxidizer to be bypassed required a new prevention of significant deterioration BACT determination, per ch. NR 405.08, Wis. Adm. Code. A new PSD BACT determination was done for the review of construction permit 06-POY-091. The PSD BACT determination included reviewing a variety of control technologies. These control technologies included a regenerative thermal oxidizer, thermal incinerator, catalytic incinerator, carbon adsorption, refrigerated condenser, water absorption/wet scrubber, and flare. The review concluded that the regenerative thermal oxidizer would be the most practical control technology, which is currently be used. However, it was not economically feasible to control emissions using a regenerative thermal oxidizer when using water based coatings. Because it is not economically feasible to control emissions when using water based coatings, a PSD BACT determination has been established when using coatings containing no more than 0.5 percent by weight volatile organic compounds and another PSD BACT determination has been established when using coatings that contain more than 0.5 percent by weight volatile organic compounds for the 25 Maker (P56).

Using coatings containing no more than 0.5% VOC by weight: When using coatings in the 25 Maker (P56) that contain no more than 0.5 percent by weight volatile organic compounds, PSD BACT has been determined to be limiting the volatile organic compound content in the coatings to 0.5 percent by weight and bypassing the regenerative thermal oxidizer (C01), per s. NR 405.08, Wis. Adm. Code. In addition to these PSD BACT requirements, volatile organic compound emissions from the 25 Maker (P56) can bypass the regenerative thermal oxidizer (C01) for a maximum of 250 hours per month, averaged over

any 12 rolling months to further restrict emissions. Volatile organic compound emissions are also subject to the latest available control technique and operating practices (LACT), per s. NR 424.03(2)(c), Wis. Adm. Code when the 25 Maker (P56) is using coatings that contain no more than 0.5 percent by weight volatile organic compounds. LACT has been determined to be meeting the PSD BACT requirements. Please refer to construction permit 06-POY-091 for additional information.

To demonstrate compliance, the facility is required to retain on site the formulation of chemicals for each coating solutions used and calculate the hours that the 25 Maker (P56) bypassed the regenerative thermal oxidizer (C01). The formulation information for each coating used will list the volatile organic compound content. Maintaining the formulation information will verify that the volatile organic compound content is less than 0.5 percent by weight. Calculating the hours that the 25 Maker (P56) bypassed the regenerative thermal oxidizer (C01) each month will verify that the emissions from the 25 Maker (P56) did not bypass the oxidizer for more than 250 hours per month, averaged over any 12 rolling months.

To verify compliance, the facility is required to record the volatile organic compound content of each coating used and of each material added to a coating, the mass of each coating used and each material added to a coating, and the time when the regenerative thermal oxidizer (C01) was bypassed. These records will show that the volatile organic compound content in all the coatings used when the regenerative thermal oxidizer (C01) is bypassed does not exceed 0.5 percent by weight and the oxidizer is not bypassed for more than 250 hours per month, averaged over any 12 rolling months.

Since the coating usage is not restricted and the volatile organic compound content limit is in percent by weight and not pounds per gallon, records of the amount of coatings used in gallons and the volatile organic compound content in pounds per gallon are not necessary. Records of the volatile organic compound content of each coating used, volatile organic compound content of each material added to a coating, the mass of each coating used, and the mass of each material added to a coating are only necessary to verify compliance with the volatile organic compound content limit. As a result, recording the amount of coatings used in gallons and the volatile organic compound content in pounds per gallon requirement in I.B.1.c.(2)(a) in construction permit 06-POY-091 has been revised prior to being included in construction permit 11-SJZ-179 and operation permit 612023940-P10:

Before Correction:
I.B.1.c.(2) The permittee shall collect and record the following information for each day:
(a) The amounts used, in gallons, and the organic compound contents, in pounds of volatile organic compound per gallon of coating as applied, of all coatings used in the Maker;
(b) The time that this operating scenario started;
(c) The time that this maker started to by-pass the oxidizer;
(d) The time that this operating scenario ended;
(e) The time that the maker exhaust is reconnected to the oxidizer;
(f) The hours of operation that the maker is operating under this scenario.
[s. NR 439.04, Wis. Adm. Code]

After Correction:
I.P.1.c.(3) **Records:** The permittee shall collect and record the following information for each day of operation:
(a) The volatile organic compound content (% wt.) of each coating used and of each material added to a coating;
(b) The mass of each coating used and each material added to a coating;

(c) The start time when 25 Maker (P56) began using coatings containing no more than 0.5% VOC by weight;
(d) The start time when 25 Maker (P56) began bypassing the thermal oxidizer (C01);
(e) The end time when 25 Maker (P56) stopped using coatings containing no more than 0.5% VOC by weight;
(f) The time when the 25 Maker (P56) exhaust was reconnected to the thermal oxidizer (C01); **And**
(g) The total hours that the regenerative thermal oxidizer (C01) was bypassed in each month, averaged over each 12 month period.
[s. NR 439.04(1)(d), Wis. Adm. Code, permit 06-POY-091]

Using coatings containing more than 0.5% VOC by weight: When using coatings in the 25 Maker (P56) that contain more than 0.5 percent by weight volatile organic compounds, PSD BACT has been determined to be controlling volatile organic compound emissions by 90 percent, per s. NR 405.08, Wis. Adm. Code. In addition to these PSD BACT requirements, the total input of volatile organic compounds to the 25 Maker is restricted to 82.5 tons per month, averaged over any 12 rolling months. This limit was established in construction permit 01-POY-017 to restrict volatile organic compounds to less than 100 tons per year and avoid an environmental assessment. Also, the coatings usage is limited to 177,642 gallons per month, the volatile organic compound content in the coatings is limited to 6.5 pounds per gallon as applied, the cleanup solvent usage is limited to 10,000 gallons per month, and the volatile organic compound content in the cleanup solvents is limited to 9.0 pounds per gallon. Volatile organic compound emissions are also required to be controlled by 85 percent, per s. NR 424.03(2)(b), Wis. Adm. Code when the 25 Maker (P56) is using coatings that contain more than 0.5 percent by weight volatile organic compounds. Meeting the PSD BACT requirements also satisfies the requirement to control emissions by 85 percent. Please refer to construction permit 06-POY-091 for additional information.

To demonstrate compliance, the facility is required to operate the regenerative thermal oxidizer (C01) to control volatile organic compound emissions, operate the oxidizer at a temperature of at least 1,457 degrees Fahrenheit or the operating temperature measured during the most recent stack test that demonstrated compliance, maintain a residence time of combustion gases in the oxidizer of at least 0.75 seconds, use the oxidizer to control volatile organic compound emissions whenever cleanup solvents are used, and operate the regenerative thermal oxidizer (C01) according to the Paper and Other Web Coating Operations Maximum Achievable Control Technology (MACT) standard JJJJ requirements. These requirements will ensure that the oxidizer is operating properly and satisfying the control efficiency requirement and the emission limit.

Further clarification has been added to the compliance demonstration and recordkeeping requirements. Because the coating usage, cleanup solvent usage, and volatile organic compound content in the coatings are restricted, the facility will be required to calculate the amount of coatings used, the amount of cleanup solvents used, and the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents used each month to be consistent. These calculations will ensure that the coating usage, cleanup solvent usage, and volatile organic compound content limits are satisfied each month.

To verify compliance, the facility is required to monitor and record the combustion temperature of the regenerative thermal oxidizer (C01) continuously, the hours that the oxidizer was bypassed, the total amount of coatings used, the total amount of cleanup solvents used, the monthly weighted average of the volatile organic compound content in the coatings and cleanup solvents each month, and the total input of volatile organic compounds to the 25 Maker (P56), averaged over each rolling 12 month period. These

records will verify that the volatile organic compound emissions are being controlled by 90 percent, the emissions are less than 82.5 tons per month input, averaged over any rolling 12 month period, and the coating usage, cleanup solvent usage, and volatile organic compound content limits are satisfied.

In addition to these compliance demonstration, monitoring, and recordkeeping requirements, the facility is also required to operate the regenerative thermal oxidizer (C01) according the Paper and Other Web Coating Operations MACT JJJJ standard. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for more information.

In addition to these volatile organic compound emission requirements, the volatile organic compound emissions from the entire facility will be limited to 249 tons per year, summed over a 12 month period after the issuance of this permit. After issuance of this permit, the facility will be considered a synthetic minor source for PSD purposes and will be treated as such for future projects. However, all PSD BACT limitations and BACT avoidance limitations established prior to the issuance of this permit will be retained.

As part of normal operation of the 25 Maker (P56), nozzles, rollers, feeders, and various other parts are occasionally cleaned. This type of cleaning involves manually cleaning portions of the maker, cleaning components of the maker in parts cleaners, or doing a complete flush of the system. Manual cleaning of the maker includes hand wiping portions of the maker with cleanup solvent. The amount of cleanup solvent used when hand cleaning portions of the maker is less than one gallon. Nozzles, rollers, feeders, and various other parts are cleaned in parts cleaners. A complete flush of the maker is a closed loop process and generates negligible emissions.

Visible emissions from the 25 Maker (P56) are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05(1) and (2), Wis. Adm. Code. The facility will demonstrate compliance by meeting the compliance demonstration requirements for volatile organic compound emissions. The facility will verify compliance by meeting the recordkeeping requirements for volatile organic compound emissions.

The state hazardous air pollutant requirements for pollutants emitted from the 25 Maker (P56) have been revised. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for the ch. NR 445, Wis. Adm. Code applicability.

<u>Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions:</u> The emissions from the 25 Maker (P56) were supplied by the facility. The emissions are calculated with the coatings containing no more than 0.5 percent by weight volatile organic compounds and the coatings containing more than 0.5 percent by weight volatile organic compounds. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. The potential volatile organic compound emissions are calculated below.

Volatile Organic Compound Emissions-using coatings containing no more than 0.5 percent by weight volatile organic compounds
MTE (lb/hr) = 860 lb/hr
MTE (ton/yr) = (860 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 3,767 ton/yr
PTE (lb/hr) = (860 lb/hr) * (0.5%/100)
PTE (lb/hr) = 4.30 lb/hr

PTE (ton/yr) = (4.30 lb/hr) * (250 hr/month) * (12 month/yr) / (2,000 lb/ton)
PTE (ton/yr) = 6.45 ton/yr

Volatile Organic Compound Emissions-using coatings containing more than 0.5 percent by weight volatile organic compounds
MTE (lb/hr) = 860 lb/hr
MTE (ton/yr) = (860 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 3,767 ton/yr
PTE (lb/hr) = (860 lb/hr) * (1-90%/100)
PTE (lb/hr) = 86.0 lb/hr
PTE (ton/yr) = (86.0 lb/hr) * (8,760 hr/yr – ((250 hr/month) * (12 month/yr)) / (2,000 lb/ton)
PTE (ton/yr) = 248 ton/yr

Natural Gas Combustion Emissions From Curing Oven
The method used to calculate the criteria pollutant and hazardous air pollutant emissions from natural gas combustion have not changed since operation permit 612023940-P01 was issued. Please refer to the preliminary determination for operation permit 612023940-P01 for more information. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The greenhouse gas emissions from the 25 Maker (P56) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu			
Carbon Dioxide (CO2)	53.02	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from 25 Maker (P56) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). The total heat input of the ovens is 25 million Btu per hour. Greenhouse gas emissions from 25 Maker (P56) are calculated below.

<u>Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (25 MMBtu/hr)
MTE (lb/hr) = 2,922 lb/hr
MTE (ton/yr) = (2,922 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 12,799 ton/yr
PTE (lb/hr) = 2,922 lb/hr
PTE (ton/yr) = 12,799 ton/yr
PTE-CO_2e (lb/hr) = (2,922 lb/hr) * (1)

PTE-CO_2e (lb/hr) = 2,922 lb/hr
PTE-CO_2e (ton/yr) = (2,922 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 12,799 ton/yr

Methane (CH4) Emissions from Natural Gas Combustion:
MTE (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (25 MMBtu/hr)
MTE (lb/hr) = 0.0551 lb/hr
MTE (ton/yr) = (0.0551 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.241 ton/yr
PTE (lb/hr) = 0.0551 lb/hr
PTE (ton/yr) = 0.241 ton/yr
PTE-CO_2e (lb/hr) = (0.0551 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 1.16 lb/hr
PTE-CO_2e (ton/yr) = (1.16 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 5.07 ton/yr

Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:
MTE (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (25 MMBtu/hr)
MTE (lb/hr) = 0.00551 lb/hr
MTE (ton/yr) = (0.00551 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0241 ton/yr
PTE (lb/hr) = 0.00551 lb/hr
PTE (ton/yr) = 0.0241 ton/yr
PTE-CO_2e (lb/hr) = (0.00551 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 1.71 lb/hr
PTE-CO_2e (ton/yr) = (1.71 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 7.48 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE (lb/hr) = (2,922 lb/hr) + (0.0551 lb/hr) + (0.00551 lb/hr)
MTE (lb/hr) = 2,922 lb/hr
MTE (ton/yr) = (2,922 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 12,800 ton/yr
PTE (lb/hr) = 2,922 lb/hr
PTE (ton/yr) = 12,800 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE (lb/hr) = (2,922 lb/hr) + (1.16 lb/hr) + (1.71 lb/hr)
PTE (lb/hr) = 2,925 lb/hr
PTE (ton/yr) = (2,925 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 12,812 ton/yr

Please refer to the "FACILITY EMISSIONS" section below for all emissions from 25 Maker (P56).

Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area

Allowable Emissions: Since the applicable particulate matter requirements for the Mineral Coating For 21 Maker Area (P64) were determined, the National Ambient Air Quality Standards (NAAQS) for total suspended particulate matter is no longer a standard under s. NR 404.04(3), Wis. Adm. Code. As a result, the particulate matter emission limits have been clarified as part of this review.

The Mineral Coating For 21 Maker Area (P64) emits total suspended particulate matter and PM10. Particulate or particulate matter means any airborne finely divided solid or liquid material with an

aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code.

The Mineral Coating For 21 Maker Area (P64) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Total suspended particulate matter emissions from the Mineral Coating For 21 Maker Area (P64) are limited to the most restrictive of the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput, per s. NR 415.05(2), Wis. Adm. Code and 0.20 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(m), Wis. Adm. Code, per s. NR 415.05(2), Wis. Adm. Code.

The total suspended particulate matter and PM10 emissions were modeled for the review of operation permit 612023940-P01. To satisfy the National Ambient Air Quality Standard (NAAQS) for total suspended particulate matter and PM10, particulate matter emissions from the Mineral Coating For 21 Maker Area (P64) were limited to 0.4 pound per hour. This limit was not established for prevention of significant deterioration (PSD) purposes. Since there no longer is a NAAQS for total suspended particulate matter in s. NR 404.04(3), Wis. Adm. Code, this emission limit applies to PM10 emissions only. PM10 has been specified as a pollutant in the permit to include the 0.4 pound per hour limit.

The facility has requested to remove the 0.4 pound per hour total suspended particulate matter limit. Although the NAAQS for total suspended particulate matter no longer exists, a construction permit is required to remove this limit. Removing the 0.4 pound per hour limit for total suspended particulate matter will be approved under construction permit 11-SJZ-179. Total suspended particulate matter emissions from the Mineral Coating For 21 Maker Area (P64) will still be limited to the most restrictive of 0.20 pounds of particulate matter per 1,000 pounds of gas, per s. NR 415.05(1)(m), Wis. Adm. Code and the allowable emission rate determined from the process weight rate equation, per s. NR 415.05(2), Wis. Adm. Code. The following particulate matter requirement has been revised.

Before Correction:
I.P.1.a.(1) Emissions may not exceed 0.4 pounds per hour. [s. NR 415.05(2)(a), Wis. Adm. Code, and s. 285.63(1)(b), Wis. Stats.]

After Correction:
I.Q.1.a.(1) **Limit:** Particulate matter emissions are limited to the most restrictive of the following:[12]
(a) 0.20 pounds per 1,000 pounds of gas **And**
(b) $E = 3.59 (P)^{0.62}$
where, E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour
[ss. NR 415.05(1)(m), and NR 415.05(2), Wis. Adm. Code]

I.Q.2.a.(1) **Limit:** PM10 emissions are limited to 0.4 pounds per hour.[13] [s. 285.65(3), Wis. Stats. and s. NR 404.08(2), Wis. Adm. Code]

[12] Based on current information, the most restrictive of these limits is the emission rate calculated from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code.

The compliance demonstration, recordkeeping, and monitoring requirements for particulate matter have not changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the compliance demonstration, recordkeeping, and monitoring requirements for particulate matter emissions.

To demonstrate compliance with the PM10 emission limit of 0.4 pounds per hour, the facility will be required to maintain the pressure drop across baghouse (C04) at greater than 1.0 inch of water column gauge pressure or another range approved by the department in writing. If the pressure drop across the baghouse is less than 1.0 inch of water column, the facility shall investigate and make the necessary repairs as soon practical. Operating the baghouse (C04) at a pressure drop above 1.0 inch of water column will ensure that the baghouse is operating efficiently and controlling emissions. To verify compliance, the facility will be required to record the pressure drop across the baghouse once every 8 hours of operation or once per day of operation, whichever yields the greater number of measurements. Recording the pressure drop will verify that the baghouse is operating properly and controlling emissions.

No other requirements have changed. Please refer to the preliminary determination for operation permit 612023940-P01 for a description of the other applicable requirements.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The maximum and potential emissions from the Mineral Coating For 21 Maker Area (P64) have been verified as a result of this review. The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P65, Stack S45 — 26 Maker

Allowable Emissions: The installation of the 26 Maker (P65) was exempt from construction permit requirements as determined in construction permit exemption 06-RAF-199-EXM. The 26 Maker (P65) consists of a production line and three natural gas fired ovens. The combined heat input to the ovens is 1.65 million Btu per hour. Emissions from the 26 Maker (P65) include criteria pollutant emissions and hazardous air pollutant emissions resulting from natural gas combustion. No emissions occur from the materials being heat treated by the ovens. Carbon monoxide and nitrogen oxide are the only pollutants emitted from 26 Maker (P65) that exceed the significance thresholds in ch. NR 407, Wis. Adm. Code. As a result, the 26 Maker (P65) is subject to the general requirements outlined in ss. NR 426.03 and NR 428.03, Wis. Adm. Code for carbon monoxide and nitrogen oxide emissions, respectively. These requirements are included in Part II of operation permit 612023940-P10. Hazardous air pollutant emissions are exempt from ch. NR 445, Wis. Adm. Code requirements because natural gas is a group 1 virgin fossil fuel, per s. NR 445.07(5)(a), Wis. Adm. Code. No further review is necessary.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The emissions from the 26 Maker (P65) are the result of natural gas combustion only. No emissions occur from the material being heat treated in the ovens or from processing. The emissions are calculated using emission factors from AP-42, Fifth Edition, a total oven capacity of 1.65 million Btu per hour, and a higher heating value of 1,020 Btu

[13] The particulate matter emission limit of 0.4 pound per hour was established in operation permit 612023940-P01 to satisfy the National Ambient Air Quality Standard (NAAQS).

per standard cubic foot of natural gas. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The greenhouse gas emissions from the 26 Maker (P65) are generated from the natural gas combustion in the ovens. The greenhouse gas emissions have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-Natural Gas**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu			
Carbon Dioxide (CO2)	53.02	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	1.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	1.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from 26 Maker (P65) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). The total heat input of the ovens is 1.65 million Btu per hour. Greenhouse gas emissions from 26 Maker (P65) are calculated below.

<u>Carbon Dioxide (CO2) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (53.02 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (1.65 MMBtu/hr)
MTE (lb/hr) = 193 lb/hr
MTE (ton/yr) = (193 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 845 ton/yr
PTE (lb/hr) = 193 lb/hr
PTE (ton/yr) = 845 ton/yr
PTE-CO_2e (lb/hr) = (193 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 193 lb/hr
PTE-CO_2e (ton/yr) = (193 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 845 ton/yr

<u>Methane (CH4) Emissions from Natural Gas Combustion:</u>
MTE (lb/hr) = (0.001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (1.65 MMBtu/hr)
MTE (lb/hr) = 0.00364 lb/hr
MTE (ton/yr) = (0.00364 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0159 ton/yr
PTE (lb/hr) = 0.00364 lb/hr
PTE (ton/yr) = 0.0159 ton/yr
PTE-CO_2e (lb/hr) = (0.00364 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.0764 lb/hr
PTE-CO_2e (ton/yr) = (0.0764 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 0.335 ton/yr

<u>Nitrous Oxide (N2O) Emissions from Natural Gas Combustion:</u>

MTE (lb/hr) = (0.0001 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (1.65 MMBtu/hr)
MTE (lb/hr) = 0.000364 lb/hr
MTE (ton/yr) = (0.000364 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.00159 ton/yr
PTE (lb/hr) = 0.000364 lb/hr
PTE (ton/yr) = 0.00159 ton/yr
PTE-CO_2e (lb/hr) = (0.000364 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 0.113 lb/hr
PTE-CO_2e (ton/yr) = (0.113 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 0.494 ton/yr

Greenhouse Gas Mass Emissions from Natural Gas Combustion:
MTE (lb/hr) = (193 lb/hr) + (0.00364 lb/hr) + (0.000364 lb/hr)
MTE (lb/hr) = 193 lb/hr
MTE (ton/yr) = (193 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 854 ton/yr
PTE (lb/hr) = 193 lb/hr
PTE (ton/yr) = 854 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Natural Gas Combustion:
PTE (lb/hr) = (193 lb/hr) + (0.0764 lb/hr) + (0.113 lb/hr)
PTE (lb/hr) = 193 lb/hr
PTE (ton/yr) = (193 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 846 ton/yr

Please refer to the "FACILITY EMISSIONS" section below for all emissions from 26 Maker (P65).

Process P66, Stack S49 — Urethane (MDI) Sponge Coating Process

Allowable Emissions: The installation of the Urethane (MDI) Sponge Coating Process (P66) was exempt from construction permit requirements as determined in construction permit exemption 08-MEO-045-EXM. Volatile organic compound emissions from the Urethane (MDI) Sponge Coating Process (P66) are less than the significance threshold of 2,000 pounds per year in ch. NR 407, Wis. Adm. Code. Therefore, volatile organic compound emissions are insignificant. Methylene diphenyl isocyanate emissions are greater than the significance threshold of 2.41 pounds per year. As a result, the Urethane (MDI) Sponge Coating Process (P66) is a significant source for methylene diphenyl isocyanate emissions. However, methylene bisphenyl isocyanate emissions are less than the s. NR 445.07, Wis. Adm. Code threshold. Since the Urethane (MDI) Sponge Coating Process (P66) is a significant emission unit and the methylene bisphenyl isocyanate emissions are less than the s. NR 445.07, Wis. Adm. Code threshold, general requirements for hazardous air contaminant emissions outlined in s. NR 445.03, Wis. Adm. Code apply. These general conditions are included in Part II of the operation permit. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" for more information.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P67, Stack S49, Control Device C21 — 27 Maker Coral Line

Allowable Emissions: The installation of the 27 Maker Coral Line (P67) was approved under construction permit exemption 08-SJZ-231-EXM. Particulate matter, PM10, volatile organic compounds,

and chloroethane (Ethyl Chloride) (CAS 75-00-3) are less than the significance threshold of 2,000 pounds per year in ch. NR 407, Wis. Adm. Code for each pollutant. The 27 Maker Coral Line (P67) is insignificant for these pollutants.

Phenol (CAS 108-95-2) emissions are greater than the significance threshold of 906 pounds per year in ch. NR 407, Wis. Adm. Code so the 27 Maker Coral Line (P67) is considered a significant source. Chloroethane and phenol emissions from the entire facility, including emissions from the 27 Maker Coral Line (P67), are less than the s. NR 445.07, Wis. Adm. Code stack category thresholds. Because the 27 Maker Coral Line (P67) is considered a significant source for phenol emissions, it is subject to the general requirements for hazardous air contaminant emissions outlined in s. NR 445.03, Wis. Adm. Code. These general requirements are included in Part II of the operation permit.

At the time of the review for construction permit exemption 08-SJZ-231-EXM, Building 49 was considered a separate facility and was considered a minor source for federal hazardous air pollutants. The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) did not apply to 27 Maker Coral Line (P67) when construction permit exemption 08-SJZ-231-EXM was issued because Building 49 was considered a minor source for federal hazardous air pollutants. Now that Building 49 and Building 50 will become one facility and a major source for federal hazardous air pollutants upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, all process lines in Building 49 will now be operated at a major source for federal hazardous air pollutants. The 27 Maker Coral Line (P67) will be subject to the Paper and Other Web Coating Operations MACT standard and will no longer be subject to the general hazardous air contaminant requirements in s. NR 445.03, Wis. Adm. Code, per s. NR 445.01(1)(b), Wis. Adm. Code. Please refer to the "WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW" and "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT)" sections for more information.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P68, Stack S68 — Sanding Cloth Line

Allowable Emissions: The installation of the Sanding Cloth Line (P68) was exempt from construction permit requirements as determined in construction permit exemption 05-RAF-200-EXM. However, the volatile organic compound emissions from the Sanding Cloth Line (P68) exceeded 15 pounds per day and are subject to s. NR 424.03(2), Wis. Adm. Code requirements.

The facility conducted a Latest Available Control Technique and Operating Practices (LACT) analysis to determine the feasibility of controlling volatile organic compound emissions from the Sanding Cloth Line (P68). The control technologies reviewed in the LACT analysis include regenerative thermal oxidation, catalytic oxidation, and carbon absorption. The control technology with the lowest cost to control volatile organic compound emissions is regenerative thermal oxidation. A LACT analysis was done using the maximum emission rate of 11.6 tons per year. The LACT analysis determined that controlling the volatile organic compound emissions using a regenerative thermal oxidizer is considered infeasible. As a result, volatile organic compound emissions are subject to LACT. LACT has been determined to be use low volatile organic compound containing raw material where applicable and volatile organic compound

emissions are limited to 11 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. The volatile organic compound emission limit of 11 tons per year is based on the maximum emissions from this process. Since the exemption threshold in s. NR 424.03(1)(a)4., Wis. Adm. Code is two significant figures, the volatile organic compound emission limit for LACT was reduced from 11.6 tons per year to 11 tons per year.

To demonstrate compliance, the facility will be required to calculate the volatile organic compound emissions each month. Requiring the facility to calculate the volatile organic compound emissions will ensure that the emissions are less than the emission limit and the criteria for establishing LACT will be satisfied.

The facility will be required to record the emission factors, process throughput, and any other information used to calculate the volatile organic compound emissions; the method used to calculate the volatile organic compound emissions; and the monthly and total volatile organic compound emissions summed over a rolling 12 month period. This will allow the facility to show that LACT is satisfied on a continuous basis.

Visible emissions are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will demonstrate compliance with the visible emission limit by meeting the compliance demonstrate requirements for volatile organic compound emissions. The facility will verify compliance with the visible emission limit by meeting the recordkeeping requirements for volatile organic compound emissions.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P69, Stack S69, Control Device C69 — Thinsulate Maker

The installation of the Thinsulate Maker (P69) was exempt from construction permit requirements as determined in construction permit exemption 12-SJZ-120-EXM. Thinsulate Maker (P69) emits particulate matter, volatile organic compounds, and hazardous air pollutants. The maximum particulate matter and volatile organic compound emissions from the Thinsulate Maker (P69) exceed the ch. NR 407, Wis. Adm. Code significant source threshold of 2,000 pounds per year so this process is significant for particulate matter and volatile organic compounds.

As part of the review for the installation of Thinsulate Maker (P69), the facility conducted an internal study to determine the physical characteristics of the material used in the existing Thinsulate Maker (P50). The study was done on the material used in Thinsulate Maker (P50) since this line is similar to Thinsulate Maker (P69). The study involved collecting air samples and analyzing the raw material used in the process. Air samples were collected at the air intake prior to the exhaust ductwork and the control equipment. The analysis included evaluating the material collected, determining the size of the fibers used in the process, and determining the size of particles emitted from the process.

Uncombined fibers and combined fibers are used to produce the Thinsulate. The samples collected for the internal study showed that the uncombined fibers are greater than 10 micrometers in all directions and greater than 100 micrometers in one direction. The uncombined fibers are not circular and are rigid. The

uncombined fibers are manufactured to a specific dimension and rigid quality to achieve the appropriate Thinsulate product quality so it is unlikely that the uncombined fibers will break into pieces less than 10 micrometers in size. Since the uncombined fibers are greater than 10 micrometers in all directions, the uncombined fibers are not considered PM10. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03(5), Wis. Adm. Code or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. Also, the uncombined fibers are not likely to become airborne because the fibers are greater than 100 micrometers in one direction. As a result, the uncombined fiber portion of the process does not generate particulate matter emissions 100 micrometers in size and less. If the uncombined fibers do become airborne, they will be controlled by two roll filters and one cartridge filter.

The review for construction permit exemption 12-SJZ-120-EXM concluded that the Thinsulate Maker (P69) generates PM2.5 and PM10 from the combined fiber portion of the process. After further review for construction permit 11-SJZ-179 and operation permit 612023940-P10, it has been determined that the Thinsulate Maker (P69) does not emit PM2.5 and PM10 due to the size of the material emitted. The solid material emitted from the Thinsulate Maker (P69) is more similar in shape to a fiber rather than a particle because the length to diameter ratio is greater than 3 to 1. The air samples collected for the internal study showed that the fibers emitted from the Thinsulate Maker (P69) are less than 2.5 micrometers in diameter and greater than 10 micrometers in length. Because of the size, it is not likely the fibers will pass through the opening of the sampling equipment and have the potential to plug the sampling equipment when collecting material to determine PM2.5 and PM10 emissions. Since it is not likely that fibers 10 micrometers in size and less can be collected by sampling equipment to determine PM2.5 and PM10 emissions, fibers 10 micrometers in size and less do not exist. As a result, the Thinsulate Maker (P69) does not emit PM2.5 and PM10. Based on the amount of information available at the time of this review, the facility will be required to operate two roll filters and one cartridge filter. The roll filters are capable of controlling material 10 micrometers to 100 micrometers in size by 99 percent. The cartridge filter is capable of controlling material 2.5 micrometers to 10 micrometers in size by a minimum of 90 percent. 3M intended to control emissions from the Thinsulate Maker (P69) using both the roll filters and the cartridge filter regardless of the size of the fibers emitted as extra reassurance to control emissions.

<u>Allowable Emissions:</u> The Thinsulate Maker (P69) was installed after April 1, 1972, and the maximum process throughput is less than 60,000 pounds per hour. Particulate matter emissions are subject to the emission rate determined from the process weight rate equation $E = 3.59*P^{0.62}$, where E is the allowable emission limit and P is the process throughput (ton per hour), per s. NR 415.05(2), Wis. Adm. Code. The allowable emission rate using the process weight rate equation is 3.36 pounds per hour.

According to s. NR 415.05(2), Wis. Adm. Code, if the allowable emission limit in s. NR 415.05(2), Wis. Adm. Code is less restrictive than the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code, then the allowable emission limit in s. NR 415.05(1), Wis. Adm. Code shall be used. The allowable emission limit most applicable to the Thinsulate Maker (P69) is 0.40 pounds of particulate matter per 1,000 pounds of gas under s. NR 415.05(1)(o), Wis. Adm. Code for each station. This emission limit equates to 14.6 pounds per hour using a stack gas flow rate of 8,121 actual cubic feet per minute (ACFM) and a stack gas temperature of 70 degrees Fahrenheit (^{o}F) according to the following:

Flow (SCFM) = ACFM * (T_{STP} + 460 / T_{Actual} + 460) * (P_{Actual} / P_{STP})
Flow (SCFM) = (8,121 ACFM) * [(68°F + 460) / (70°F + 460)] * [(1)/(1)]
Flow (SCFM) = 8,090 SCFM (standard cubic feet per minute)

Using a stack exhaust gas moisture content of zero percent, the flowrate of 8,090 SCFM equates to a dry standard cubic feet per minute (DSCFM) of 8,090 DSCFM according to the following:

Flow Rate (DSCFM) = Flow Rate (SCFM) * (1 – Stack Gas Moisture %/100)
Flow Rate (DSCFM) = (8,090 SCFM) * (1-0%/100)
Flow Rate (DSCFM) = 8,090 DSCFM

The allowable emission limit of 0.40 pounds of particulate matter per 1,000 pounds of gas equates to the following hourly limit:

Allowable Emission Rate (lb/hr) = (0.40 lb/1,000 lb) * (0.075 lb/ft^3) * (8,090 DSCFM) * (60 min/hr)
Allowable Emission Rate (lb/hr) = 14.6 lb/hr

The allowable emission rate of 3.36 pounds per hour, determined from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code is the most restrictive limit.

The uncontrolled particulate matter emissions are less than 3.36 pounds per hour and the two roll filters and one cartridge filter (C69) are not required for the Thinsulate Maker (P69) to meet this limit based on the information available at the time of this review. However, due to the amount of information available at the time of this review, the facility will be required to operate the roll filters and cartridge filter to provide additional reassurance that the particulate matter emission limit is being satisfied.

To ensure compliance with the particulate matter emission limit, the facility will be required to operate the two roll filters and one cartridge filter (C69). The facility will be required to maintain a pressure drop of less than 1.0 inch of water column gauge pressure for the roll filters and maintain the air resistance of the cartridge filter between 0.36 and 1.5 inches of water gauge (in. w.g.) or another range approved by the department in writing. The pressure drop and air resistance range are based on manufacturer's recommendations. If the pressure drop across the roll filter is greater than 1.0 inch of water column, then the facility will be required to investigate and make the necessary repairs as soon as practical. Operating the roll filters at this pressure drop and operating the cartridge filter with this air resistance range will ensure that the particulate matter emission limit is satisfied.

To verify compliance, the facility will be required to record the pressure drop across the two roll filters and the air resistance of the cartridge filter once every 8 hours of operation or once per day of operation, whichever yields the greater number of measurements. Recording the pressure drop of the roll filters and the air resistance of the cartridge filter will verify that the roll filters and the cartridge filter are operating properly and controlling particulate matter emissions.

The potential particulate matter emissions from the Thinsulate Maker (P69) are 0.00653 pounds per hour. This emission rate includes the control efficiency of the two roll filters. Particulate matter emitted from the Thinsulate Maker (P69) is considered total suspended particulate matter. The particulate matter emissions were not included in the air quality review because there no longer is a National Ambient Air Quality Standard (NAAQS) for total suspended particulate matter.

Visible emissions from the Thinsulate Maker (P69) are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. Meeting the compliance demonstration requirements for particulate matter also demonstrates compliance with the visible emission limit. Meeting the recordkeeping and monitoring requirements for particulate matter also verifies compliance with the visible emission limit.

Volatile organic compound emissions from the Thinsulate Maker (P69) exceed 15 pounds per day and are subject to s. NR 424.03, Wis. Adm. Code requirements. Volatile organic compound emissions are required to be controlled by 85 percent or if 85 percent control is not feasible, the emissions must be restricted to the Latest Available Control Techniques (LACT) and operating practices demonstrating best current technology, per s. NR 424.03(2)(b) and (c), Wis. Adm. Code. The volatile organic compound emissions from the Thinsulate Maker (P69) are 3.6 tons per year are uncontrolled. The flow rate of the stack venting emissions from the Thinsulate Maker (P69) is between 8,121 actual cubic feet per minute and 16,419 actual cubic feet per minute. At this low emission rate and flow rate and based on previous reviews, it can be determined without a feasibility study that controlling volatile organic compound emissions is not feasible for this type of situation. As a result, no feasibility study was done for this review.

Because it is not feasible to control volatile organic compound emissions by 85 percent, the emissions are restricted to LACT. LACT has been determined to be use low volatile organic compound containing raw material where applicable and volatile organic compound emissions are limited to 3.6 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. To demonstrate compliance, the facility will be required calculate the volatile organic compound emissions each month. The facility will also be required to calculate the emissions over a rolling 12 month period. Calculating the emissions each month and calculating the emissions over a rolling 12 month period will verify that the volatile organic compound emissions do not exceed 3.6 tons per year. To verify compliance, the facility will be required to record all information used to calculate the emissions, the method used to calculate the emissions, the monthly volatile organic compound emissions, and the volatile organic compound emissions summed over a rolling 12 month period. Maintaining records of the emission calculation, monthly emissions, and emissions summed over a rolling 12 month period will show that the volatile organic compound emission limit is being satisfied.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P270, Stack S270 — Post Cure Oven

The Post Cure Oven (P270) is a batch process that further conditions products that are processed in the Columbia Press (P40). The Post Cure Oven (P270) was modified under construction permit 06-POY-091. The review for construction permit 06-POY-091 determined that the volatile organic compound emissions from the 21 Maker (P31) and 25 Maker (P56) were restricted to allow the emissions from the Post Cure Oven (P270) to bypass the regenerative thermal oxidizer (C01) when the 21 Maker (P31) and 25 Maker (P56) bypassed the oxidizer and not cause the total volatile organic compound emissions from the modification of 21 Maker (P31) and 25 Maker (P56), and Post Cure Oven (P270) and the modification of the Columbia Press (P40) to exceed 40 tons per year. As a result, the modifications of the

Post Cure Oven (P270) and the Columbia Press (P40) are not subject to prevention of significant deterioration (PSD) requirements. Please refer to the preliminary determination for construction permit 06-POY-091 for more information.

Historically, emissions from the Post Cure Oven (P270) were controlled by the regenerative thermal oxidizer (C01). The review for construction permit 06-POY-091 determined that the emissions from the Post Cure Oven (P270) are not required to be controlled if the oven processes material generated from the Columbia Press (P40) only. To allow the emissions from the Post Cure Oven (P270) to be uncontrolled, the Post Cure Oven (P270) will be restricted to processing materials generated from the Columbia Press (P40) only.

Volatile organic compound emissions are less than 15 pounds per day. As are result, the Post Cure Oven (P270) is exempt from ch. NR 424, Wis. Adm. Code requirements, per s. NR 424.03(1)(a)4., Wis. Adm. Code.

Volatile organic compound emissions from the Post Cure Oven (P270) are less than the ch. NR 407, Wis. Adm. Code significance threshold so this process is insignificant. However, the Post Cure Oven (P270) is included in the operation permit because the emissions are based on the oven further processing materials from the Columbia Press (P40) only and for future reference purposes.

Allowable Emissions: The volatile organic compound emissions from the Post Cure Oven (P270) are restricted by only allowing the Post Cure Oven (P270) to treat products that have been processed by the Columbia Press (P40). This requirement was established in construction permit 06-POY-091. To demonstrate compliance, the facility is required to indicate that the Post Cure Oven (P270) can only treat products that have been processed by the Columbia Press (P40) in the facility's Operating Standard document. Also, a label is placed on the Post Cure Oven (P270) indicating that only material from the Columbia Press (P40) may be processed by the Post Cure Oven (P270). This will ensure that only material from the Columbia Press (P40) is processed by the Post Cure Oven (P270).

Visible emissions are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will demonstrate compliance with the visible emission limit by meeting the compliance demonstrate requirements for volatile organic compound emissions.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The information used to calculate the emissions is considered confidential material. The emissions submitted by the facility were reviewed and are considered correct. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

Process P271, Stack S271 — 285 kW Emergency Diesel Generator

Allowable Emissions: Emergency Diesel Generator (P271) is rated at 285 kilowatts (382 horsepower, 2.67 MMBtu/hr). The Emergency Diesel Generator (P271) is used to supply power if normal electrical power is interrupted, is not used to peak shave, and is limited to operating no more than 200 hours per year. As a result, the Emergency Diesel Generator (P271) is considered an emergency generator, per s. NR 400.02(56), Wis. Adm. Code. The 200 hours of operation per year includes operating during testing periods, emergency situations, and any other use approved by the department.

Because Emergency Diesel Generator (P271) is considered an emergency generator, it is subject to general requirements. These general requirements include restricting operation to no more than 200 hours per year and recording the date of operation, the start-up time, the shut-down time, and the total hours of operation of the emergency generator. These records will ensure that the Emergency Diesel Generator (P271) will not exceed 200 hours of operation per year.

Maximum Theoretical (MTE) and Potential to Emit (PTE) Emissions: The maximum and potential emissions are calculated using emission factors from AP-42, Section 3.3-1 for gasoline and diesel engines rated at less than 600 horsepower. Potential emissions include the operating limit of 200 hours per year. The maximum and potential emissions from the Emergency Diesel Generator (P271) are calculated below.

Carbon Monoxide Emissions from Diesel Fuel Combustion
MTE (lb/hr) = (0.95 lb/MMBtu) * (2.67 MMBtu/hr)
MTE (lb/hr) = 2.54 lb/hr
MTE (ton/yr) = (2.54 lb/hr) * (24 hr/day) * (365 day/yr) / (2,000 lb/ton)
MTE (ton/yr) = 11.1 ton/yr
PTE (lb/hr) = 2.54 lb/hr
PTE (ton/yr) = (2.54 lb/hr) * (200 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 0.254 ton/yr

Nitrogen oxide, particulate matter, PM10, sulfur dioxide, and volatile organic compound emissions are calculated using this method. Please refer to the "FACILITY EMISSIONS" section below for all emissions.

The hazardous air pollutant emissions from Emergency Diesel Generator (P271) have not been listed here because these emissions are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

The greenhouse gas emissions from Emergency Diesel Generator (P271) have been calculated below using the following emission factors from 40 CFR Part 98 Subpart C, Tables C-1 and C-2 and the global warming potentials from 40 CFR Part 98 Subpart A, Table A-1.

Greenhouse Gas Pollutant	**Emission Factor-#2 Fuel Oil**	**Emission Factor Reference**	**Global Warming Potential (CO_2e/CO_2)**	**Global Warming Potential Reference**
	kg/MMBtu			
Carbon Dioxide (CO2)	73.96	40 CFR Part 98, Subpart C, Table C-1	1	40 CFR Part 98, Subpart A, Table A-1
Methane (CH4)	3.00E-03	40 CFR Part 98, Subpart C, Table C-2	21	40 CFR Part 98, Subpart A, Table A-1
Nitrous Oxide (N2O)	6.00E-04	40 CFR Part 98, Subpart C, Table C-2	310	40 CFR Part 98, Subpart A, Table A-1

The greenhouse gas emissions emitted from Emergency Diesel Generator (P271) include carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4). Greenhouse gas emissions from Emergency Diesel

Generator (P271) are calculated below.

Carbon Dioxide (CO2) Emissions from Diesel Fuel Combustion:
MTE (lb/hr) = (73.96 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2.67 MMBtu/hr)
MTE (lb/hr) = 436 lb/hr
MTE (ton/yr) = (436 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 1,910 ton/yr
PTE (lb/hr) = 436 lb/hr
PTE (ton/yr) = 1,910 ton/yr
PTE-CO_2e (lb/hr) = (436 lb/hr) * (1)
PTE-CO_2e (lb/hr) = 436 lb/hr
PTE-CO_2e (ton/yr) = (436 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1,910 ton/yr

Methane (CH4) Emissions from Diesel Fuel Combustion:
MTE (lb/hr) = (0.003 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2.67 MMBtu/hr)
MTE (lb/hr) = 0.0177 lb/hr
MTE (ton/yr) = (0.0177 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0775 ton/yr
PTE (lb/hr) = 0.0177 lb/hr
PTE (ton/yr) = 0.0775 ton/yr
PTE-CO_2e (lb/hr) = (0.0177 lb/hr) * (21)
PTE-CO_2e (lb/hr) = 0.371 lb/hr
PTE-CO_2e (ton/yr) = (0.371 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 1.63 ton/yr

Nitrous Oxide (N2O) Emissions from Diesel Fuel Combustion:
MTE (lb/hr) = (0.0006 kg/MMBtu) * (1,000 g/kg) / (453.593 g/lb) * (2.67 MMBtu/hr)
MTE (lb/hr) = 0.00354 lb/hr
MTE (ton/yr) = (0.00354 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 0.0155 ton/yr
PTE (lb/hr) = 0.00354 lb/hr
PTE (ton/yr) = 0.0155 ton/yr
PTE-CO_2e (lb/hr) = (0.00354 lb/hr) * (310)
PTE-CO_2e (lb/hr) = 1.10 lb/hr
PTE-CO_2e (ton/yr) = (1.10 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE-CO_2e (ton/yr) = 4.80 ton/yr

Greenhouse Gas Mass Emissions from Diesel Fuel Combustion:
MTE (lb/hr) = (436 lb/hr) + (0.0177 lb/hr) + (0.00354 lb/hr)
MTE (lb/hr) = 436 lb/hr
MTE (ton/yr) = (436 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
MTE (ton/yr) = 1,910 ton/yr
PTE (lb/hr) = 436 lb/hr
PTE (ton/yr) = 1,910 ton/yr

Carbon Dioxide Equivalent (CO2e) Emissions from Diesel Fuel Combustion:
PTE (lb/hr) = (436 lb/hr) + (0.371 lb/hr) + (1.10 lb/hr)
PTE (lb/hr) = 437 lb/hr
PTE (ton/yr) = (437 lb/hr) * (8,760 hr/yr) / (2,000 lb/ton)
PTE (ton/yr) = 1,916 ton/yr

Please refer to the “FACILITY EMISSIONS” section below for all emissions.

Conditions Applicable to the Entire Facility

Synthetic Minor Prevention of Significant Deterioration (PSD) Source Volatile Organic Compound (VOC) Emission Limit

The total volatile organic compound (VOC) emissions from the entire facility including all existing permitted sources, all pre-approved projects and facility changes, and any sources permitted under traditional ch. NR 406, Wis. Adm. Code are limited to 249 tons per year, summed over a rolling 12 month period. This limit will be established in construction permit 11-SJZ-179 and operation permit 612023940-P10 to allow the facility to become a synthetic minor prevention of significant deterioration (PSD) source.

To demonstrate compliance, the facility will be required to calculate the volatile organic compound emissions from the entire facility each month. The monthly emissions will be combined to determine the total volatile organic compound emissions from the entire facility over every 12 month period. The emissions will be calculated using actual operating data such as actual volatile organic compound content and actual material usages. Averaged volatile organic compound contents and actual material usages will not be used in this calculation. The facility will be required to perform these calculations each month to determine the total volatile organic compound emissions from the entire facility over a rolling 12 month period.

To verify that the facility is demonstrating compliance, the facility will be required to keep records of the unique name or identification number for each raw material that contains volatile organic compounds, the monthly usage of each raw material containing volatile organic compounds in gallons, the volatile organic compound content in each raw material in pounds per gallon, the method used to calculate the volatile organic compound emissions, the calculation of volatile organic compounds emitted in tons per month, the sum of all volatile organic compounds emitted in tons per month, and the sum of all volatile organic compounds emitted from the entire facility in tons per year as summed over a rolling 12 month period. This will ensure that the volatile organic compound emissions from the entire facility are less than the major PSD source threshold of 250 tons per year on a monthly basis.

Changes in Rule Applicability Under Sections 111 or 112 of the Clean Air Act

The facility has requested that the permit require the facility to notify WDNR according to the notification requirements of the rule or within 30 days of a change in the applicability of any rule under sections 111 or 112 of the Clean Air Act that affects the facility. The facility would like to establish appropriate requirements that recognize any change in the applicability of rules that currently apply to the facility or a change in the applicability of a rule that did not apply before but will affect the facility as a result of the change. As a result, the facility will be required to notify WDNR according to the notification requirements of the rule or within 30 days of the rule change. The facility will be required to include changes in applicability and how the rule applies to the facility in the notification. The facility will be required to record changes in rule applicability, how the rule applies to the facility, how the facility will demonstrate compliance, if applicable, and all monitoring and records required by the rule, if applicable.

Pre-Approved Projects/Facility Changes Under Part III

The pre-approved projects/facility changes that will be allowed under construction permit 11-SJZ-179 and operation permit 612023940-P10 include the following:

- Modify an existing web coating line or surface coating process

- Construct or install a new web coating line
- Construct or install a new plastic or metal parts surface coating process
- Subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit
- Installation of new or modification of existing semi-finished web processing equipment
- Installation of new or modification of existing air pollution control devices
- R&D/Pilot/Development Projects

Upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10 and the approval of the Participation Contract under Green Tier, the facility will be allowed to implement these pre-approved projects according to Part III of construction permit 11-SJZ-179 and operation permit 612023940-P10.

The facility will be required to restrict volatile organic compound emissions to 249 tons per year for the entire facility including all pre-approved projects. All pre-approved projects will not be allowed to consist of the stationary sources identified under 40 CFR 52.21(b)(1)(i)(a) and s. NR 405.02(22)(a), Wis. Adm. Code, for which the threshold for a major stationary source is 100 tons per year of any regulated New Source Review (NSR) pollutant. The facility will be required to collect all information to calculate volatile organic compound emissions for the entire facility, calculate the monthly volatile organic compound emissions for the entire facility, and calculate the volatile organic compound emissions for the entire facility over rolling 12 month period. The facility will also be required to keep a record of all pre-approved projects made to the facility.

Initial and Start-up Notifications: For each pre-approved project, the facility will be required to submit an initial notification and a start-up notification. The initial notification will include notifying the Wisconsin DNR of the construction of a pre-approved project. For R&D/Pilot/Development projects, the facility shall submit an initial notification to the WDNR within 10 days of the construction or implementation of the project. For all other projects, the facility shall submit an initial notification to the WDNR within 3 days prior to construction or implementation of the project/facility.

The facility will be required to submit a start-up notification within 30 calendar days after start-up for all pre-approved projects including R&D/Pilot/Development projects. The start-up notification will include a general description of the project, emission calculations, emission rates, identification of which pre-approval under Part III.A of the permit applies, and an explanation of why the project is covered under that pre-approval; a list of all applicable permit requirements for the pre-approved project/facility change and how the requirements will be satisfied; how the emission limits in s. NR 422.07 or NR 422.08, Wis. Adm. Code, s. NR 445.03, Wis. Adm. Code, Pressure Sensitive Tape and Label Surface Coating requirements in 40 CFR Part 60 Subpart RR (60.440-60.447), if applicable, and Paper and Other Web Coating Operations MACT in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420), if applicable, will be satisfied and any situations where all compliance demonstration and recordkeeping requirements for all emission limits will be satisfied by meeting the most restrictive compliance demonstration and recordkeeping requirements; how volatile organic compound emissions will be tracked against the facility cap including a description of emissions factors; identification of any ch. NR 445, Wis. Adm. Code substances, and the analysis for each, demonstrating that the ch. NR 445, Wis. Adm. Code emission threshold is satisfied, that through modeling the concentration of the ch. NR 445, Wis. Adm. Code substance at the property line is below required levels, or other demonstration that the emissions are less than the ch. NR 445, Wis. Adm. Code emission thresholds; and identification of nitrogen oxide, sulfur

dioxide, or particulate matter and a modeling review or other demonstration, showing that the NAAQS and ambient air increments will not be exceeded at the property line of the facility in the start-up notification. This information is necessary to ensure that the pre-approved project/facility change is allowed under construction permit 11-SJZ-179 and operation permit 612023940-P10. All projects installed and all applicable requirements determined in the start-up notification will be incorporated into the operation permit through an operation permit revision or in the next operation permit renewal.

For all pre-approved projects/facility changes except for R&D/Pilot/Development Projects, the pollutants and the requirements that apply to the pollutants will be identical or very similar to the equipment already operating at the facility. The pre-approved projects and facility changes will not trigger other permit requirements in ch. NR 406, Wis. Adm. Code. If a pre-approved project and facility change is subject to a limit not listed in construction permit 11-SJZ-179 and operation permit 612023940-P10, then that project will most likely not meet the criteria of a pre-approved project and facility change allowed under this permit and will need to be permitted through traditional ch. NR 406, Wis. Adm. Code review.

Ch. NR 445, Wis. Adm. Code Review: For each installation of a new or modification of an existing semi-finished web processing equipment or R&D/pilot/development projects, the facility will be required to conduct a ch. NR 445, Wis. Adm. Code review. This review will include determining the state hazardous air pollutants that will be emitted, calculating the emissions, combining these emissions with the emissions from the rest of the facility for each stack category, and comparing the emissions to the ch. NR 445, Wis. Adm. Code thresholds. The other future projects/facility changes will not be included in the ch. NR 445, Wis. Adm. Code review because these changes are subject to a standard promulgated under section 112 of the Clean Air Act, per s. NR 445.01(1)(b), Wis. Adm. Code and the state hazardous air pollutant emissions are regulated under these standards. All pre-approved projects will not be allowed to emit any Table B (pesticides, rodenticides, insecticides, herbicides, and fungicides) or Table C (pharmaceuticals) pollutants of ch. NR 445, Wis. Adm. Code.

If the state hazardous air pollutant emissions exceed the ch. NR 445, Wis. Adm. Code thresholds, the facility can model the emissions to determine if the impact is less than the ambient air standard if a standard is established. All modeling performed shall be consistent with the most current WDNR Dispersion Modeling Guidelines (June 2009 or most recent version). If the state hazardous air pollutant emissions exceed the ambient standard or if a standard has not been established, the facility will be required to apply a compliance method in s. NR 445.08(2)(a), (b), (c), (d), or (e), Wis. Adm. Code or apply the control requirement indicated in the Table A of ch. NR 445, Wis. Adm. Code if one is specified for that pollutant. The facility will be required to include how the ch. NR 445, Wis. Adm. Code requirements will be satisfied in the start-up notification. The compliance method determined in the start-up notification will be incorporated into the operation permit through an operation permit revision or in the next operation permit renewal.

Air Quality Review: For each pre-approved project, the facility will be required to conduct an air quality review for PM2.5, PM10, nitrogen oxide, and/or sulfur dioxide emissions if there is an increase in emissions from these pollutants and assess compliance with the corresponding National Ambient Air Quality Standards (NAAQS). As mentioned previously, the facility can model state hazardous air pollutant emissions to determine compliance with ch. NR 445, Wis. Adm. Code requirements if an ambient air standard has been established. All modeling of emissions will be done according to the Wisconsin DNR Dispersion Modeling Guidelines (June 2009 or most recent version). If the NAAQS are

not satisfied, then the facility must revise stack parameters, work-practice limits, or other constraints until the NAAQS are satisfied. The facility will also be required to continuously update the list of stacks and stack parameters after a new process is installed so future modeling analyses includes the most current list of stacks and stack parameters. The facility will be required to submit this information in the start-up notification. Any requirement determined in the start-up notification to satisfy the NAAQS will be incorporated into the operation permit through an operation permit revision or in the next operation permit renewal. This is the same analysis that is required for a traditional construction permit.

Carbon monoxide is not listed as a pollutant to be included in the air quality review because carbon monoxide emissions from the facility are generated from natural gas combustion only. Carbon monoxide emissions will be restricted as a result of restricting the total facility volatile organic compound emission to 249 tons per year and the facility ensuring that the NAAQS are satisfied for PM2.5, PM10, nitrogen oxide, and/or sulfur dioxide. As a result, carbon monoxide emissions are not expected to exceed the NAAQS.

Modify an existing web coating line or surface coating process (Part III.F.)

The modification of an existing web coating line or surface coating process will consist of modifying the following web coating lines which are part of the Paper and Other Web Coating Operations MACT (40 CFR Part 63 Subpart JJJJ) affected source: 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), and 2A Fiber Line (I2). The permittee may also modify any of the following surface coating processes which are part of the Surface Coating of Plastic Parts and Products MACT (40 CFR Part 63 Subpart PPPP) and/or Surface Coating of Miscellaneous Metal Parts and Products MACT (40 CFR Part 63 Subpart MMMM) affected sources: Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5). Modifications may include, but are not be limited to, one or more of the following changes.

(a) installation of one or more additional coating applicators and/or drying ovens
(b) installation of one or more additional abrasive applicators and/or drying ovens
(c) installation of one or more in-line corona treaters
(d) modification of one more existing coating or abrasives applicators and/or drying ovens
(e) change of equipment configuration, web thread-up, air handling, sequence of operations, etc., including any such which pertain to an air pollution control device
(f) use of new and/or reformulated coating materials
(g) installation of one or more mixing vessels or other items of supporting equipment which meet the definition of ancillary operations under Paper and Other Web Coating Operations MACT JJJJ or which are part of a Surface Coating of Plastic Parts and Products MACT PPPP or Surface Coating of Miscellaneous Metal Parts and Products MACT MMMM affected source, as applicable.

For any modification to the Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 24CC Maker (P55), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), 2A Fiber Line (I2), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5), the facility will be required to meet applicable requirements in Part III and the requirements in sections listed below of construction permit 11-SJZ-179 and operation permit 612023940-P10:

Any modification to the following lines:	**Then meet the following requirements in:**
Abrasive Sponge Coating Process (P07)	I.X., III.M.
22 Maker (P30)	I.E., I.X., III.M.
21 Maker (P31)	I.F., I.X., III.M.
Coiled Web Maker (P32)	I.G., I.X., III.M.
Safety Walk Maker (P44)	I.J., I.X., III.M.
24CC Maker (P55)	I.O., I.X., III.M.
25 Maker (P56)	I.P., I.X., III.M.
27 Maker Coral Line (P67)	I.T., I.X., III.M.
Sanding Cloth Line (P68)	I.U., I.X., III.M.
General Purpose Bun Coater (I1)	I.X., III.M.
2A Fiber Line (I2)	I.X., III.M.
General Purpose Polyurethane Foam Process (Slab Press) (I3)	I.X., III.M.
Roloc Semi-Automated and Manual Disc Assembly (I4)	I.X., III.M.
Rotopeen Line (I5)	I.X., III.M.

Ch. NR 405, Wis. Adm. Code: Although the facility will be allowed to modify the Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 24CC Maker (P55), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), 2A Fiber Line (I2), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) upon the issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, the facility will still be required to meet all existing requirements including all ch. NR 405, Wis. Adm. Code prevention of significant deterioration (PSD) requirements established in previous permit reviews for these process lines. All current PSD requirements will be carried forward and remain unchanged with the issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10.

40 CFR Part 60 Subpart RR: The definition of a pressure sensitive tape and label materials manufacturing line is subject to change. As a result, an existing web coating or surface coating line that is modified under the modification of an existing web coating line or surface coating process pre-approved project/facility change category may be considered a pressure sensitive tape and label materials manufacturing line as a result of the modification and subject to the Standards of Performance (NSPS) For Pressure Sensitive Tape and Label Surface Coating Operations in 40 CFR Part 60 Subpart RR (40 CFR 60.440-60.447). Please refer to the "STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES" section for a description of all emission limits and compliance demonstration, recordkeeping and monitoring requirements.

40 CFR Part 63 Subpart JJJJ: Please note that 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), and 2A Fiber Line (I2) are existing web coating lines and are subject to the Paper and Other Web Coating Operations MACT standard. The Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) are not web coating lines but meet the Paper and Other Web Coating Operations MACT JJJJ standard as an alternative to meeting the Surface Coating of Miscellaneous Metal Parts and Products MACT in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981) and the Surface Coating of Plastic Parts and Products MACT in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for all applicable requirements and details.

Construct or install a new web coating line (Part III.G.)

Another pre-approved project/facility change is the construction or installation of one or more new web coating lines that meet the definition of an affected source under 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). Each such newly constructed or installed web coating line shall be consistent in design and function with any of the following web coating lines which constitute the Paper and Other Web Coating Operations MACT JJJJ affected source upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10: 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), and 2A Fiber Line (I2).

Ch. NR 415, Wis. Adm. Code: If particulate matter (total suspended particulate) emissions are generated from a new web coating line, the emissions will be limited to the most restrictive of the applicable limit found in s. NR 415.05(1), Wis. Adm. Code and the allowable emission limit determined from the process weight rate equation $E = 3.59 (P)^{0.62}$ where E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour, per s. NR 415.05(2), Wis. Adm. Code. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. If a control device is required to control particulate matter emissions to demonstrate compliance, then the facility shall perform the associated monitoring required for that control device in accordance with the Wisconsin Administrative Code. The facility will be able to verify that the emission limit is being satisfied by recording the appropriate operating data of the control device as necessary, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year.

If PM10 emissions are generated from a new web coating line and if the emissions exceed the National Ambient Air Quality Standard (NAAQS) for PM10, then PM10 emissions shall be restricted to satisfy the NAAQS for PM10. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. If a control device is required to control PM10 emissions to demonstrate compliance, then the facility shall perform the associated monitoring required for that control device in accordance with the Wisconsin Administrative Code. The facility will

be able to verify that the emission limits are satisfied by maintaining on site technical drawings, blueprints or equivalent records of the physical stack parameters; recording the appropriate operating data of the control device as necessary, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year.

If PM2.5 emissions are generated from a new web coating line and if the emissions exceed the National Ambient Air Quality Standard (NAAQS) for PM2.5, then PM2.5 emissions shall be restricted to satisfy the NAAQS for PM2.5. PM2.5 means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured in the ambient air by a reference method based on Appendix L of 40 CFR part 50, incorporated by reference in s. NR 484.04(6g), Wis. Adm. Code and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03(5), Wis. Adm. Code or by an equivalent method, per s. NR 400.02(123e), Wis. Adm. Code. If a control device is required to control PM2.5 emissions to demonstrate compliance, then the facility shall perform the associated monitoring required for that control device in accordance with the Wisconsin Administrative Code. The facility will be able to verify that the emission limits are satisfied by maintaining on site technical drawings, blueprints or equivalent records of the physical stack parameters; recording the appropriate operating data of the control device as necessary, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year.

Ch. NR 431, Wis. Adm. Code: Visible emissions from any new web coating line will be limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will be able to demonstrate compliance with the visible emission limit by meeting the compliance demonstration for particulate matter emissions. The facility will be able to verify compliance with the visible emission limit by meeting the recordkeeping and monitoring requirements for particulate matter emissions.

Ch. NR 424, Wis. Adm. Code: Volatile organic compound (VOC) emissions from a new web coating line that do not meet the exemption criteria in s. NR 424.03(1), Wis. Adm. Code will be subject to s. NR 424.03(2), Wis. Adm. Code requirements. The facility will be required to control volatile organic compound emissions by 85 percent or conduct a Latest Available Control Techniques (LACT) analysis according to the Wisconsin DNR LACT analysis guidance (February 1995) or the most current guidance to determine the feasibility of controlling emissions. If controlling emissions by 85 percent is not feasible, then volatile organic compound emissions will be limited to LACT. LACT has be determined to be using low volatile organic compound containing raw material where applicable and limiting volatile organic compound emissions to the rate at which the LACT analysis was conducted or an alternative control technique approved by the department in writing, per s. NR 424.03(2)(b) and (c), Wis. Adm. Code.

If controlling volatile organic compound emissions by 85 percent, the facility will demonstrate compliance by operating the control device whenever the web coating line is operating and meeting the monitoring requirements for that type of control device as required by the Wis. Adm. Code. Monitoring the operation of the control device will ensure that the control device is operating properly and controlling

volatile organic compound emissions by 85 percent. To verify that the monitoring is being done, the facility will be required to record the operating data as required by the Wis. Adm. Code for that type of control device. To ensure that the control device is operating properly, the facility will be required to keep records of each inspection, check, and any maintenance or repairs performed on the control device. The facility will also be required to maintain the operating parameters on the control device according to the manufacturer's recommendations, or equivalent, and calibrate the monitoring devices, if applicable at least once per year. Operating the control device according to the manufacturer's recommendations, or equivalent, and calibrating the equipment at least once per year will allow the control device to operate properly at the highest control efficiency.

If controlling volatile organic compound emissions according to LACT, the facility will be required to demonstrate compliance by calculating the volatile organic compound emissions each month and combining the monthly emissions to determine the emissions over a rolling 12 month period. To verify compliance, the facility will be required to keep records of all information used to calculate the volatile organic compound emissions, the method used to calculate the volatile organic compound emissions, the monthly volatile organic compound emissions, and the total volatile organic compound emissions summed over a rolling 12 month period.

Ch. NR 422, Wis. Adm. Code: In lieu of meeting s. NR 424.03(2), Wis. Adm. Code requirements, the facility has requested the option to meet the requirements in either s. NR 422.07 or s. NR 422.08, Wis. Adm. Code, per s. NR 424.03(3), Wis. Adm. Code. Section 422.07(2), Wis. Adm. Code limits volatile organic compound emissions to 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to each coating applicator from a paper coating line. Section 422.08(2)(a), Wis. Adm. Code limits volatile organic compound emissions to 0.35 kilograms per liter of coating (2.9 pounds per gallon) or 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water, delivered to each coating applicator from a fabric coating line. Section 422.08(2)(b), Wis. Adm. Code limits volatile organic compound emissions to 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water, delivered to each coating applicator from a vinyl coating line. Please note that these ch. NR 422, Wis. Adm. Code requirements only apply to coating lines while applying coatings to a paper (including metal foil and plastic films, as defined at NR 422.02(62), Wis. Adm. Code), fabric, vinyl, or fabric web. These requirements do not apply to coating of non-woven webs, such as the non-woven webs utilized by 21 Maker (P31), 22 Maker (P30), and 25 Maker (P56) as configured at the time of this review.

To demonstrate compliance, the facility can calculate the emissions using in-line averaging, use low solvent content coating technology, use a capture system and a vapor recovery system to recover solvent for reuse, use capture system and incineration or catalytic oxidation to control volatile organic compound emissions, or use a high transfer efficiency coating application. To verify that the emission limits are being satisfied, the facility will be required to keep records of the volatile organic compound content in the coatings excluding water, delivered to each coating applicator and the method used to demonstrate compliance.

40 CFR Part 60 Subpart RR: The Standards of Performance (NSPS) For Pressure Sensitive Tape and Label Surface Coating Operations in 40 CFR Part 60 Subpart RR (40 CFR 60.440-60.447) does not apply to any new or existing web coating lines at the time of this review. However, the definition of a pressure sensitive tape and label materials manufacturing line is subject to change. As a result, a new web coating line installed under the new web coating line pre-approved project/facility changes category may be

considered a pressure sensitive tape and label materials manufacturing line and subject to the Standards of Performance (NSPS) For Pressure Sensitive Tape and Label Surface Coating Operations. Please refer to the "STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES" section for a description of all emission limits and compliance demonstration, recordkeeping and monitoring requirements.

40 CFR Part 63 Subpart JJJJ: The installation of a new web coating line is also subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) requirements. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for all applicable requirements and details.

Construct or install a new plastic or metal parts surface coating process (Part III.H.)

The construction or installation a new plastic or metal parts surface coating process consists of constructing or installing one or more new surface coating processes which meet the definition of an affected source under Miscellaneous Metal Parts and Products MACT in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981) and/or Surface Coating of Plastic Parts and Products MACT in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). Each such newly constructed or installed surface coating process will be similar in design and function with any of the following surface coating processes of the Miscellaneous Metal Parts and Products MACT MMMM and Surface Coating of Plastic Parts and Products MACT PPPP affected sources operated at the facility at the time of this review: Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5).

Ch. NR 415, Wis. Adm. Code: If particulate matter (total suspended particulate matter) emissions are generated from a new plastic or metal parts surface coating process, the emissions will be limited to the most restrictive of the applicable limit found in s. NR 415.05(1), Wis. Adm. Code and the allowable emission limit determined from the process weight rate equation $E = 3.59\ (P)^{0.62}$ where E is the emission limit in pounds per hour, and P is the process weight rate in tons per hour, per s. NR 415.05(2), Wis. Adm. Code. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. If a control device is required to control particulate matter emissions to demonstrate compliance, the facility will be required to perform the associated monitoring required for that control device in accordance with the Wis. Adm. Code. Monitoring the control device according to the Wisconsin Administrative Code will ensure that the control device is operating properly and meeting the emission limit. The facility will be able to verify that the emission limit is satisfied by recording the appropriate operating data as necessary on the control device, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year. Conducting inspections, maintenance, and repairs will also verify that the control device is operating properly. Operating the control device according to the manufacturer's recommendations, or equivalent, and calibrate the monitoring devices, if applicable will also verify that the control device is operating at maximum performance.

If PM10 emissions are generated from a new plastic or metal parts surface coating process and if the emissions exceed the National Ambient Air Quality Standard (NAAQS) for PM10, then PM10 emissions

will be limited to an emission rate that satisfies the NAAQS. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. If a control device is required to control PM10 emissions to demonstrate compliance, the facility will be required to perform the associated monitoring required for that control device in accordance with the Wis. Adm. Code. Monitoring the control device according to the Wisconsin Administrative Code will ensure that the control device is operating properly and meeting the emission limit, if applicable. The facility will be able to verify that the emission limit is satisfied by maintaining on site technical drawings, blueprints or equivalent records of the physical stack parameters; record appropriate operating data as necessary on the control device, if required; record each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintain operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year. Conducting inspections, maintenance, and repairs will also verify that the control device is operating properly. Operating the control device according to the manufacturer's recommendations, or equivalent, and calibrate the monitoring devices, if applicable will also verify that the control device is operating at maximum performance.

If PM2.5 emissions are generated from a new plastic or metal parts surface coating process and if the emissions exceed the National Ambient Air Quality Standard (NAAQS) for PM2.5, then PM2.5 emissions shall be restricted to satisfy the NAAQS for PM2.5. PM2.5 means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured in the ambient air by a reference method based on Appendix L of 40 CFR part 50, incorporated by reference in s. NR 484.04(6g), Wis. Adm. Code and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03(5), Wis. Adm. Code or by an equivalent method, per s. NR 400.02(123e), Wis. Adm. Code. If a control device is required to control PM2.5 emissions to demonstrate compliance, then the facility shall perform the associated monitoring required for that control device in accordance with the Wisconsin Administrative Code. Monitoring the control device according to the Wisconsin Administrative Code will ensure that the control device is operating properly and meeting the emission limit, if applicable. The facility will be able to verify that the emission limits are satisfied by maintaining on site technical drawings, blueprints or equivalent records of the physical stack parameters; recording the appropriate operating data of the control device as necessary, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year.

Ch. NR 431, Wis. Adm. Code: Visible emissions from any new plastic or metal parts surface coating process will be limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will be able to demonstrate compliance with the visible emission limit by meeting the compliance demonstration requirements for particulate matter emissions. The facility will be able to verify compliance by keeping records required for particulate matter emissions.

Ch. NR 424, Wis. Adm. Code: Volatile organic compound (VOC) emissions from a new plastic or metal parts surface coating process that do not meet the exemption criteria in s. NR 424.03(1), Wis. Adm. Code will be subject to s. NR 424.03(2), Wis. Adm. Code requirements. The facility will be required to control

volatile organic compound emissions by 85 percent or conduct a Latest Available Control Techniques (LACT) analysis according to the Wisconsin DNR LACT analysis guidance (February 1995) or the most current guidance to determine the feasibility of controlling emissions. If controlling emissions by 85 percent is not feasible, then volatile organic compound emissions will be limited to LACT. LACT has be determined to be using low volatile organic compound containing raw material where applicable and limiting volatile organic compound emissions to the rate at which the LACT analysis was conducted or an alternative control technique approved by the department in writing, per s. NR 424.03(2)(b) and (c), Wis. Adm. Code.

If controlling volatile organic compound emissions by 85 percent, the facility will demonstrate compliance by operating the control device whenever the a new plastic or metal parts surface coating process is operating and meeting the monitoring requirements for that type of control device as required by the Wisconsin Administrative Code. Monitoring the operation of the control device will ensure that the control device is operating properly and controlling volatile organic compound emissions by 85 percent. To verify that the monitoring is being done, the facility will be required to record the operating data as required by the Wisconsin Administrative Code for that type of control device. To ensure that the control device is operating properly, the facility will be required to keep records of each inspection, check, and any maintenance or repairs performed on the control device. The facility will also be required to maintain the operating parameters on the control device according to the manufacturer's recommendations, or equivalent, and calibrate the monitoring devices, if applicable at least once per year. Operating the control device according to the manufacturer's recommendations, or equivalent, and calibrating the equipment at least once per year will allow the control device to operate properly at the highest control efficiency.

If controlling volatile organic compound emissions according to LACT, the facility will be required to demonstrate compliance by calculating the volatile organic compound emissions each month and combining the monthly emissions to determine the emissions over a rolling 12 month period. To verify compliance with the LACT requirements, the facility will be required to keep records of all information used to calculate the volatile organic compound emissions, the method used to calculate the volatile organic compound emissions, the monthly volatile organic compound emissions, and the total volatile organic compound emissions summed over a rolling 12 month period.

<u>40 CFR Part 63 Subpart MMMM:</u> The installation of a new metal parts surface coating process will be subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Miscellaneous Metal Parts and Products in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981). A new metal parts surface coating process will be similar in design and function with the Roloc Semi-Automated and Manual Disc Assembly (I4) and will meet the definition of a Surface Coating of Miscellaneous Metal Parts and Products MACT affected source. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for all applicable requirements and details.

<u>40 CFR Part 63 Subpart PPPP:</u> The installation of a new plastic parts surface coating process will be subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Plastic Parts and Products in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). A new plastic parts surface coating process will be similar in design and function with the Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane

Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) and will meet the definition of a Surface Coating of Plastic Parts and Products affected source. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for all applicable requirements.

40 CFR Part 63 Subpart JJJJ: The installation of a new plastic or metal parts surface coating process will be subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) requirements because at least 90 percent of the surface coating operations at the facility are web coating operations that are subject to the Paper and Other Web Coating MACT JJJJ standard. Since at least 90 percent of the surface coating operations at the facility are web coating operations that are subject to the Paper and Other Web Coating MACT JJJJ standard, the facility is allowed to meet the Miscellaneous Metal Parts and Products MACT MMMM standard for a new metal parts surface coating process by meeting the Paper and Other Web Coating MACT JJJJ standard, per 40 CFR 63.3881(e)(2). Also, since at least 90 percent of the surface coating operations at the facility are web coating operations that are subject to the Paper and Other Web Coating MACT JJJJ standard, the facility is allowed to meet the Surface Coating of Plastic Parts and Products MACT PPPP standard for a new plastic parts surface coating process by meeting the Paper and Other Web Coating Operations MACT JJJJ standard, per 40 CFR 63.4481(e)(2). As a result, the a new plastic or metal parts surface coating process may be subject to the Paper and Other Web Coating MACT JJJJ standard. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" for all applicable requirements.

Subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit (Part III.I.)

The subsequent modification of web coating lines or surface coating operations installed under authority of this permit consists of modifying any new web coating lines or surface coating operation that were installed under construction permit 11-SJZ-149 and operation permit 612023940-P10. For requirements that apply to the modification of web coating lines installed under construction permit 11-SJZ-149 and operation permit 612023940-P10, please refer to the "Construct or install a new web coating line (Part III.A.2.)" section above for details. For requirements that apply to the modification of surface coating operations installed under construction permit 11-SJZ-149 and operation permit 612023940-P10, please refer to the "Construct or install a new plastic or metal parts surface coating process (Part III.A.3.)" section above for details.

Installation of new or modification of existing semi-finished web processing equipment (Part III.J.)

The installation of a new or modification of an existing semi-finished web processing equipment consists of modifying any of the existing process operations which are used for semi-finished web processing, including the Columbia Press (P40), Belt Making Area (P54), or other equipment similar in design and function that further processes web material. The permittee may also construct or install, or may subsequently modify on one or more occasions, one or more new process operations consistent in scale and function to the Columbia Press (P40), Belt Making Area (P54), or other existing semi-finished web processing equipment.

For any modifications to the Columbia Press (P40) and Belt Making Area (P54), please refer to the Process P40, Stacks S14, S260 — Columbia Press" and "Process P54, Stack S54 — Belt Making Area"

sections above for all applicable requirements.

Ch. NR 405, Wis. Adm. Code: Volatile organic compound emissions from the Belt Making Area (P54) are limited to 200 pounds per day, averaged over any 12 rolling month period. This limit was established to ensure that the volatile organic compound emissions are less than 40 tons per year and the installation of the Belt Making Area (P54) was considered a minor modification to a major prevention of significant deterioration (PSD) source. Although the facility will be allowed to modify the Belt Making Area (P54) upon the issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, the facility will still be required to meet all existing requirements including all ch. NR 405, Wis. Adm. Code PSD avoidance related requirements established in previous permit reviews for this process line. All current PSD related requirements will be carried forward and remain unchanged with the issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10.

Ch. NR 424, Wis. Adm. Code: Volatile organic compound emissions from the construction or installation of a new or modification of one or more new process operations consistent in scale and function to the Columbia Press (P40), Belt Making Area (P54), or other existing semi-finished web processing equipment will be subject to s. NR 424.03(2), Wis. Adm. Code requirements if emissions exceed 15 pounds per day. The facility will be required to control volatile organic compound emissions by 85 percent or conduct a Latest Available Control Techniques (LACT) analysis according to the Wisconsin DNR LACT analysis guidance (February 1995) or the most current guidance to determine the feasibility of controlling emissions. If controlling emissions by 85 percent is not feasible, then volatile organic compound emissions will be limited to LACT. LACT has be determined to be using low volatile organic compound containing raw material where applicable and limiting volatile organic compound emissions to the rate at which the LACT analysis was conducted or an alternative control technique approved by the department in writing, per s. NR 424.03(2)(b) and (c), Wis. Adm. Code.

If controlling volatile organic compound emissions by 85 percent, the facility will demonstrate compliance by operating the control device whenever the semi-finished web processing equipment is operating and meeting the monitoring requirements for that type of control device as required by the Wisconsin Administrative Code. Monitoring the operation of the control device will ensure that the control device is operating properly and controlling volatile organic compound emissions by 85 percent. To verify that the monitoring is being done, the facility will be required to record the operating data as required by the Wisconsin Administrative Code for that type of control device. To ensure that the control device is operating properly, the facility will be required to keep records of each inspection, check, and any maintenance or repairs performed on the control device. The facility will also be required to maintain the operating parameters on the control device according to the manufacturer's recommendations, or equivalent, and calibrate the monitoring devices, if applicable at least once per year. Operating the control device according to the manufacturer's recommendations, or equivalent, and calibrating the equipment at least once per year will allow the control device to operate properly at the highest control efficiency.

If controlling volatile organic compound emissions according to LACT, the facility will be required to demonstrate compliance by calculating the volatile organic compound emissions each month and combining the monthly emissions to determine the emissions over a rolling 12 month period. To verify compliance with the LACT requirements, the facility will be required to keep records of all information used to calculate the volatile organic compound emissions, the method used to calculate the volatile

organic compound emissions, the monthly volatile organic compound emissions, and the total volatile organic compound emissions summed over a rolling 12 month period.

Ch. NR 431, Wis. Adm. Code: Visible emissions from the construction or installation of a new or modification of one or more new process operations consistent in scale and function to the Columbia Press (P40), Belt Making Area (P54), or other existing semi-finished web processing equipment will be limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will be able to demonstrate compliance with the visible emission limit by meeting the compliance demonstration requirements for particulate matter emissions. The facility will be able to verify compliance by keeping records required for particulate matter emissions.

40 CFR Part 63 Subpart JJJJ: The construction or installation of a new or modification of one or more new process operations consistent in scale and function to the Columbia Press (P40), Belt Making Area (P54), or other existing semi-finished web processing equipment will not be subject to the Paper and Other Web Coating Operations MACT standard because a new or modification of a new semi-finished web processing equipment web coating line is not considered an Paper and Other Web Coating Operations MACT affected source, per 40 CFR 63.3310. A new or modification of a new semi-finished web processing equipment web coating line is not subject to any other MACT standard at the time of this review.

Installation of new or modification of existing air pollution control devices (Part III.K.)

The pre-approved project category of air pollution control devices consists of installing one or more new air pollution control devices, or modifying an existing air pollution control device, as may be required to meet applicable emissions limitations. New control devices used to control volatile organic compound emissions will be limited to thermal oxidizers, catalytic oxidizers, and/or biofiltration. New control devices used to control particulate matter shall be limited to filters, baghouses, or equipment similar in design and function. Where applicable, the facility will be required to meet the control device requirements in Paper and Other Web Coating Operations MACT standard for each new or modified air pollution control device. Please refer to the "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD" section for requirements that apply to control devices used to demonstrate compliance with the Paper and Other Web Coating Operations MACT standard.

R&D/Pilot/Development Projects (Part III.L.)

R&D projects will consist of projects that are not covered under the other pre-approved projects, are not listed in s. NR 405.02(22)(a)1, Wis. Adm. Code, and do not require a permit under chs. NR 405 or NR 408, Wis. Adm. Code or under s. NR 446.05, Wis. Adm. Code. The facility will be limited to operating a R&D project for no more than 12 months. The facility shall determine maximum theoretical emissions, potential emissions, and the potential applicable State and Federal compliance requirements relating to this potential process before the end of the 12 month operation period. If the facility chooses to continue operating the process at the facility, and if emissions exceed permitting thresholds as identified in ch. NR 406 and/or NR 407, Wis. Adm. Code, the facility shall apply for and receive either a new source construction permit and/or a revision of the Title V operating permit before production commences. If emissions are less than permitting thresholds and the project meets the exemptions identified in ch. NR 406, Wis. Adm. Code, the Wisconsin DNR shall issue a construction permit exemption. If 3M chooses not to proceed with placing the process in production, the process shall be removed from the facility or remain non-operational. If 12 months is insufficient to provide 3M an ability to install, test, and

determine the fate of the potential process under this approval, 3M is prohibited to continue work on the process/project until such time as 3M applies for and receives a new source construction permit per ch. NR 406, Wis. Adm. Code, based on anticipated emissions from the process/project, for those projects above exemption levels identified in ch. NR 406.04(2), Wis. Adm. Code.

Ch. NR 424, Wis. Adm. Code: The majority of the emissions expected from any R&D project are volatile organic compounds, particulate matter, and visible emissions. Volatile organic compound emissions will be subject to NR 424.03, Wis. Adm. Code requirements. Since any R&D project will not operate for more than 12 months, emissions are limited to less than 100 tons per year for the combination of all R&D/Pilot/ Development Projects, and due to the cost of natural gas, it has been determined that controlling volatile organic compound emissions by 85 percent is not feasible. As a result, volatile organic compound emissions are subject to the Latest Available Control Techniques and Operating Practices (LACT). LACT has been determined to be limiting actual volatile organic compound emissions to less than or equal to 25 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. The 25 ton per year limit is based on the 5.7 pound per hour exemption threshold for volatile organic compounds in s. NR 406.04(2)(c), Wis. Adm. Code. To demonstrate compliance, the facility will be required to record the method used to calculate the emissions, the emissions, the amount of raw material used, and whether the emissions-generating portion of the process operated for each day. This will allow the facility to show that the emissions are less than 25 tons per year.

Ch. NR 415, Wis. Adm. Code: Particulate matter emissions (total suspended particulate matter) will be limited to the most restrictive of the applicable limit in s. NR 415.05(1), Wis. Adm. Code and the rate determined from the process weight rate equation in s. NR 415.05(2), Wis. Adm. Code. Particulate or particulate matter means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers, per s. NR 400.02(118), Wis. Adm. Code. If a control device is required to meet the emission limit, the facility will be required to monitor the control device in accordance with the Wisconsin Administrative Code. The facility will verify that the compliance demonstration requirements are satisfied by keeping records of operating data of the control device, if required, to satisfy requirements in the Wisconsin Administrative Code. The facility will also be required to keep records of each inspection, check, and any maintenance or repairs performed on the control device, if a control device is required. Records of the operating data and inspections will verify that the control device is operated properly and being maintained. The facility will be required to maintain the operating parameters on the control device, if required, in accordance with the manufacturer's recommendations and calibrate at least once per year.

If PM10 emissions are generated from any R&D project and if the emissions exceed the National Ambient Air Quality Standards (NAAQS), then PM10 emissions shall be restricted to satisfy the NAAQS for PM10. PM10 means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), Wis. Adm. Code, and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), Wis. Adm. Code, or by an equivalent method, per s. NR 400.02(123s), Wis. Adm. Code. If a control device is required to demonstrate compliance with the emission limit, the facility will be required to monitor the control device in accordance with the Wisconsin Administrative Code. The facility will verify that the compliance demonstration requirements are satisfied by keeping records of physical stack parameters; operating data of the control device, if required, to satisfy requirements in the Wisconsin Administrative Code. The

facility will also be required to keep records of each inspection, check, and any maintenance or repairs performed on the control device, if a control device is required. Records of the operating data and inspections will verify that the control device is being maintained and operated properly. The facility will be required to maintain the operating parameters on the control device, if required, in accordance with the manufacturer's recommendations and calibrate at least once per year.

If PM2.5 emissions are generated from any R&D project and if the emissions exceed the National Ambient Air Quality Standard (NAAQS) for PM2.5, then PM2.5 emissions shall be restricted to satisfy the NAAQS for PM2.5. PM2.5 means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured in the ambient air by a reference method based on Appendix L of 40 CFR part 50, incorporated by reference in s. NR 484.04(6g), Wis. Adm. Code and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03(5), Wis. Adm. Code or by an equivalent method, per s. NR 400.02(123e), Wis. Adm. Code. If a control device is required to control PM2.5 emissions to demonstrate compliance, then the facility shall perform the associated monitoring required for that control device in accordance with the Wisconsin Administrative Code. The facility will be able to verify that the emission limits are satisfied by maintaining on site technical drawings, blueprints or equivalent records of the physical stack parameters; recording the appropriate operating data of the control device as necessary, if required; recording each inspection, check, and any maintenance or repairs performed on the control device, if required; and maintaining operating parameters on the control device, if required, in accordance with the manufacturer's recommendations, or equivalent, and calibrate at least once per year.

Ch. NR 431, Wis. Adm. Code: Visible emissions are limited to number 1 of the Ringlemann chart or 20 percent opacity, per s. NR 431.05, Wis. Adm. Code. The facility will demonstrate compliance with the visible emission limit by meeting the compliance demonstration requirement for particulate matter, PM10, and PM2.5 emissions. The facility will be able to verify that the compliance demonstration requirements are satisfied by keeping records required for particulate matter and PM10 emissions.

National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations Requirements (40 CFR Part 63 Subpart JJJJ (63.3280-63.3420)) Requirements Applicable to Pre-Approve Projects/Facility Changes (Part III.M.)

The following pre-approved project/facility changes are subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420):

(a) Modify an existing web coating line or surface coating process (Part III.A.1.)
(b) Construct or install a new web coating line (Part III.A.2.)
(c) Construct or install a new plastic or metal parts surface coating process (Part III.A.3.)
(d) Subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit (Part III.A.4.)
(e) Installation of new or modification of existing air pollution control devices (Part III.A.6.)

The modification of an existing web coating line or surface coating process, construction or installation of a new web coating line, construction or installation of a new plastic or metal parts surface coating process, subsequent modification of web coating lines or parts coating operation installed under authority of this permit, and installation or modification of an air pollution control device are subject to the Paper and Other Web Coating Operations MACT standard in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420).

The installation or modification of an air pollution control device has been included here because the Paper and Other Web Coating Operations MACT standard includes operating requirements for control equipment.

The Paper and Other Web Coating Operations MACT standard requirements in Part III.M. of construction permit 11-SJZ-179 and operation permit 612023940-P10 include requirements related to control devices or monitoring devices allowed under the MACT standard that are not currently operated at the facility. The Paper and Other Web Coating Operations MACT standard requirements in Part I.X. and Part III.M. of construction permit 11-SJZ-179 and operation permit 612023940-P10 both apply to each modification of an existing web coating line or surface coating process, construction or installation of a new web coating line, construction or installation of a new plastic or metal parts surface coating process, subsequent modification of web coating lines or parts coating operation, and installation or modification of an air pollution control device.

The construction or installation of a new plastic or metal parts surface coating process will be subject to the Miscellaneous Metal Parts and Products MACT MMMM standard in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981) and Surface Coating of Plastic Parts and Products MACT standard in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). The facility will be able to meet the Paper and Other Web Coating Operations MACT standard as an alternative to meeting the Miscellaneous Metal Parts and Products MACT standard and Surface Coating of Plastic Parts and Products MACT standard, per 40 CFR 63.3881(e)(2) and 40 CFR 63.4481(e)(2), respectively.

The installation of one or more web coating lines at the 3M Prairie du Chien plant or modification of any web coating line will be considered a modification of an existing affected source under 40 CFR Part 63 Subpart JJJJ, and as such is not subject to advance written approval under 40 CFR 63.5. An affected source is the collection of web coating lines, per 40 CFR 63.3300.

Organic hazardous air pollutant emissions from the modification of an existing web coating line or surface coating process, construction or installation of a new web coating line, construction or installation of a new plastic or metal parts surface coating process, and subsequent modification of web coating lines or surface coating processes installed under authority of this permit are subject to one of the following, per 40 CFR 63.3320(b)(1), (2), (3), and (4):

(a) No more than 5 percent of the VOC applied for each month (95 percent reduction); OR
(b) No more than 4 percent of the mass of coating materials applied for each month; OR
(c) No more than 20 percent of the mass of coating solids applied for each month; OR
(d) If an oxidizer is used to control VOC emissions, operate the oxidizer such that an outlet VOC concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.

To demonstrate compliance with these emission limits, the facility will be required to meet the compliance demonstration requirements in 40 CFR 63.3370. If a control device is used to demonstrate compliance with the emission limits, then the facility will be required to meet the air pollution control device requirements in 40 CFR 63.3350. To verify compliance, the facility will be required to keep records according to 40 CFR 63.3410. Please refer to the “MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD” section for more details.

Conditions that apply to all project/facility changes under Part III.A. (Part III.N.)

The criteria pollutant emissions (carbon monoxide, oxides of nitrogen, particulate matter, sulfur dioxide, volatile organic compounds, lead, or lead compounds) will be limited to 100 tons per year for each pollutant for each pre-approved process/facility change under Part III.A, except for R&D/Pilot/ Development Projects to avoid conducting an environmental assessment under s. NR 150.03(8)(b)1, Wis. Adm. Code and to ensure that the facility remains a synthetic minor PSD source. For R&D/Pilot/Development Projects, emissions of each criteria pollutant will be limited to less than 100 tons per year for the sum of all such R&D/Pilot/Development Projects authorized under Part III.A.(7). To demonstrate compliance, the facility will be required to calculate the emissions from all pre-approved projects each month. To verify that compliance is being demonstrated, the facility will be required to keep records of all information used to calculate the emissions, the method used to calculate the emissions, and the emissions from each pre-approved process/facility change.

The compliance demonstration requirement requires the calculation of particulate matter, PM10, PM2.5, and volatile organic compound emissions only because these pollutants are the only pollutants expected from each pre-approved project and facility change to exceed 100 tons per year due to the nature of the process. The majority of the emissions will be emitted from the pre-approved projects and facility changes will be volatile organic compound emissions. If volatile organic compound emissions are restricted to less than 100 tons per year for each project, emissions from the other criteria pollutants will be significantly less than 100 tons per year as a result of restricting volatile organic compound emissions to less than 100 tons per year.

CONTROL TECHNOLOGY REVIEW

The control technologies for the following emissions units were reviewed under the preliminary determination for operation permit number 612023940-P01 and remain unchanged as a result of this renewal:

1. Process P31, Stacks S14, S200, S210, S220, S230, Control Device(s) C01 — 21 Maker

2. Process P32, Stack S16, Control Device C03 — Coiled Web Maker

3. Process P44, Stack S34, Control Device C11 — Safety Walk Maker

4. Process P45, Stack S36, Control Device C06 — Mineral Handling Area

5. Process P50, Stack S42, Control Device C07 — Thinsulate Maker

6. Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning

7. Process P55, Stack S14, Control Device C01 — 24CC Maker

8. Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area

Please refer to the preliminary determination for operation permit number 612023940-P10 for a detailed description of the control technologies for these emissions units.

The following are the control technologies for emissions units that are either new or changed as a result of this renewal:

Process P30, Stack S14, Control Device C01 — 22 Maker

When the 22 Maker (P30) was installed, emissions were controlled by thermal oxidizer C01 and C02. Since the 22 Maker (P30) was installed, thermal oxidizer C02 has been removed. Emissions are now controlled by regenerative thermal oxidizer C01 only.

Process P36, Stack S14, Control Device C01 — Pigment Mill Mix Area

The Pigment Mill Mix Area (P36) is a process that has always operated at the facility and is a significant emission unit. Volatile organic compound and organic hazardous air pollutant emissions from the Pigment Mill Mix Area (P36) are controlled by the regenerative thermal oxidizer (C01). Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" for more details.

Process P40, Stack S260 — Columbia Press

The emissions from the Columbia Press (P40) have historically been controlled by the regenerative thermal oxidizer (C01). The review for construction permit 06-POY-091 determined that controlling volatile organic compound emissions by 85% is not feasible so the latest available control technique and operating practices (LACT) applies. Construction permit 06-POY-091 established LACT to be operating according to good operating practices, per s. NR 424.03(2)(c), Wis. Adm. Code. As part of the review for construction permit 11-SJZ-179 and operation permit 612023940-P10, LACT has been revised to be use low volatile organic compound containing raw material where applicable and limit volatile organic compound emissions to 4.8 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" for more details.

Process P54, Stack S54 — Belt Making Area

Historically, the volatile organic compound emissions from the Belt Making Area (P54) have been controlled by the regenerative thermal oxidizer (C01). The facility conducted a Latest Available Control Technique and Operating Practices (LACT) analysis and determined that continually controlling volatile organic compound emissions using the regenerative thermal oxidizer (C01) is considered infeasible. As a result, volatile organic compound emissions are subject to LACT. LACT has been determined to be use low volatile organic compound containing raw material where applicable and limit volatile organic compound emissions to 28 tons per year, summed over a rolling 12 month period, per s. NR 424.03(2)(c), Wis. Adm. Code. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for more details.

Process P56, Stacks S14, S230, S240, Control Device C01 — 25 Maker

The 25 Maker (P56) was installed after the issuance of operation permit 612023940-P01. Emissions from these units are controlled by the regenerative thermal oxidizer (C01).

Process P67, Stack S49, Control Device C21 — 27 Maker Coral Line

The 27 Maker Coral Line (P67) was installed after the issuance of operation permit 612023940-P01. Emissions from the 27 Maker Coral Line (P67) are controlled by baghouse C12. The material collected in the baghouse is considered product and returned back to the process.

Process P270, Stack S270 — Post Cure Oven

Historically, emissions from the Post Cure Oven (P270) were controlled by the regenerative thermal oxidizer (C01). The review for construction permit 06-POY-091 determined that the emissions are not

required to be controlled if the Post Cure Oven (P270) treats product generated from the Columbia Press (P40) only. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" for more details.

WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW

Chapter NR 445, Wis. Adm. Code applicability has been updated as a result of this review. The emissions from processes subject to ch. NR 445, Wis. Adm. Code requirements are listed below.

Total Ch. NR 445, Wis. Adm. Code Pollutant Emissions (Stacks 25 feet to less than 40 feet in height)

Pollutant	CAS	Process	Maximum Theoretical Emissions		Ch. NR 445 Threshold (Stacks 25 < 40 ft)	Units	NR 445 Table	Federal Listed HAP	State Listed HAP	Potential to Emit		
			lb/hr	lb/yr						lb/hr	lb/yr	ton/yr
Acetaldehyde	75-07-0	P69	1.58E-02	138	10.7 (3,318)	lb/hr (lb/yr)	A,E	Yes	Yes	1.58E-02	138	6.92E-02
Acrolein	107-02-8	P69	8.10E-04	7.10	0.0545	lb/hr	A,E	Yes	Yes	8.10E-04	7.10	3.55E-03
Acrylic Acid	79-10-7	P69	8.00E-05	7.01E-01	1.23 (730)	lb/hr-24 hr avg. (lb/yr)	A,E	Yes	Yes	8.00E-05	7.01E-01	3.50E-04
Formaldehyde	50-00-0	P69	1.91E-02	167	562	lb/yr	A,E	Yes	Yes	1.91E-02	167	8.37E-02

Total Ch. NR 445, Wis. Adm. Code Pollutant Emissions (Stacks 40 feet to less than 75 feet in height)

Pollutant	CAS	Process	Maximum Theoretical Emissions		Ch. NR 445 Threshold (Stacks 40 < 75 ft)	Units	Ch. NR 445 Table	Federal Listed HAP	State Listed HAP	Potential to Emit		
			lb/hr	lb/yr						lb/hr	lb/yr	ton/yr
Acetaldehyde	75-07-0	P50	9.48E-03	8.30E+01	20.6 (7,900)	lb/hr (lb/yr)	A,E	Yes	Yes	9.48E-03	8.30E+01	4.15E-02
Acrolein	107-02-8	P50	4.86E-04	4.26	0.105	lb/hr	A,E	Yes	Yes	4.86E-04	4.26	2.13E-03
Acrylic Acid	79-10-7	P50	4.80E-05	4.20E-01	2.48 (1,738)	lb/hr-24 hr avg. (lb/yr)	A,E	Yes	Yes	4.80E-05	4.20E-01	2.10E-04
Ammonia	7664-41-7	P07 (S09)	8.10E-02	710	3.63 (73,000)	lb/hr (lb/yr)	A,E	No	Yes	8.10E-02	710	3.55E-01
Ammonia	7664-41-7	P31	9.88E-01	8,655	3.63 (73,000)	lb/hr (lb/yr)	A,E	No	Yes	2.26E-01	1,976	9.88E-01
Total Ammonia					**3.63 (73,000)**	**lb/hr (lb/yr)**	**A,E**	**No**	**Yes**	**3.07E-01**	**2,686**	**1.34**
Formaldehyde	50-00-0	P50	1.15E-02	1.00E+02	1,337	lb/yr	A,E	Yes	Yes	1.15E-02	1.00E+02	5.02E-02
Formaldehyde	50-00-0	P52	6.40E-02	561	1,337	lb/yr	A,E	Yes	Yes	7.31E-03	64.0	3.20E-02
Total Formaldehyde					**1,337**	**lb/yr**	**A,E**	**Yes**	**Yes**	**1.88E-02**	**164**	**8.22E-02**

Pollutant	CAS	Process	Maximum Theoretical Emissions		Ch. NR 445 Threshold (Stacks 40 < 75 ft)	Units	Ch. NR 445 Table	Federal Listed HAP	State Listed HAP	Potential to Emit		
			lb/hr	lb/yr						lb/hr	lb/yr	ton/yr
Hydrogen Chloride	7647-01-0	P52	2.50	21,900	3.41 (34,762)	lb/hr (lb/yr)	A,E	Yes	Yes	2.50E-01	2,190	1.095
Sulfuric Acid	7664-93-9	P31	7.30E-02	639	0.421	lb/hr-24 avg.	A,E	No	Yes	1.10E-02	96.0	4.80E-02

Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2
Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3
Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4

Boiler B21 (#2), Boiler B22 (#3), and Boiler B23 (#4) have the ability to burn #2 fuel oil and natural gas only. Hazardous air pollutants resulting from #2 fuel oil and natural gas combustion in these boilers are exempt from ch. NR 445, Wis. Adm. Code requirements because these fuels are a group 1 virgin fossil fuel, per s. NR 445.07(5)(a), Wis. Adm. Code.

Regenerative Thermal Oxidizer (C01)

The regenerative thermal oxidizer (C01) has the ability to burn natural gas. Hazardous air pollutants resulting from the combustion of natural gas are exempt from ch. NR 445, Wis. Adm. Code requirements because natural gas is a group 1 virgin fossil fuel, per s. NR 445.07(5)(a), Wis. Adm. Code.

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process

The Abrasive Sponge Coating Process (P07) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Plastic Parts and Products in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). The facility is able to meet the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations MACT standard in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) as an alternative to meeting the Surface Coating of Plastic Parts and Products MACT, per 40 CFR 63.4481(e)(2).

Best Available Control Technology (BACT) requirements under ch. NR 445, Wis. Adm. Code were established to limit formaldehyde emissions from the Abrasive Sponge Coating Process (P07). The Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutants including formaldehyde. According to s. NR 445.01(1)(b), Wis. Adm. Code, ch. NR 445, Wis. Adm. Code requirements do not apply to formaldehyde emissions from the Abrasive Sponge Coating Process (P07) because a MACT standard that regulates formaldehyde applies to these process lines. The facility has requested to remove these requirements. A construction permit is required to remove these BACT requirements because these requirements were established based on the ch. NR 445, Wis. Adm. Code requirement that applied at the time of installation or modification. As a result, the removal of the BACT requirements will be granted under construction permit 11-SJZ-179. Formaldehyde emissions will be restricted according to the Paper and Other Web Coating Operations MACT standard. The following BACT requirements from construction permit 03-RAF-318 for the Abrasive Sponge Coating Process (P07) will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

I.A.2.a.(1) The permittee shall apply Best Available Control Technology (BACT) to control formaldehyde emissions from Process P07. BACT for Process P07 consists of the use of low fuming coatings,[14] which includes the following requirements:
(a) Formaldehyde emissions may not exceed 0.15 pounds per hour.[15]
(b) The free formaldehyde content of any coating may not exceed 2.0% by weight, as applied.
[s. NR 445.05(3)(b), Wis. Adm. Code]*

I.A.2.a.(2) Stack Parameter Requirements:[16]

[14] *Coating* includes resins, adhesive, adhesive mixture, adhesive components, and coating mixes.

[15] 0.15 lb/hr is the PTE for the use of low fuming coatings based on the information provided by the applicant.

[16] These requirements are included because BACT was reviewed with these stack parameters and the health effects were determined based these values.

(a) The stack (S09) height shall be at least 36.0 feet above ground level.
(b) The stack (S09) inside diameter at the outlet may not exceed 27.0 inches.
(c) The stack may not be equipped with a rainhat or other device that may impede the upward velocity of the exhaust gas.
[ss. 285.63(1)(a) and 285.65(3), Wis. Stats.]*

I.A.2.b.(1) The permittee shall keep the records required in condition c.(3) [s. 285.65(3), Stats.] *

I.A.2.b.(2) Within 180 days of permit issuance, the permittee shall perform an initial performance test in accordance with s. NR 439.07, Wis. Adm. Code, to demonstrate compliance with the limits under a.(1). [Wis. Adm. Code, s. 285.65(3), Stats.] *

I.A.2.c.(1) Reference Test Method for Formaldehyde Emissions: Whenever emission testing of formaldehyde emissions is required, the permittee shall use U.S. EPA Method 0011, Method 320 or another method approved by the Department.[17] [s. NR 439.06(8), Wis. Adm. Code] *

I.A.2.c.(2) Whenever a determination of free formaldehyde content of a coating is used, the permittee shall use methods approved, in advance, by the Department. [s. NR 439.06(8), Wis. Adm. Code] *

I.A.2.c.(3) The permittee shall keep the following records:
(a) A unique name or identification number for each coating, coating mixture, and coating component used.
(b) The Material Safety Data Sheet (MSDS) for each coating.
(c) For each coating that is a mixture of several components, the name and weight percent of each component in the mixture.
(d) The weight percent free formaldehyde content of each coating, as applied.
(e) The technical drawings, blueprints or equivalent records of the physical stack parameters.
[s. 285.65(3), Wis. Stats.] *

Process P30, Stack S14, Control Device C01 — 22 Maker

The 22 Maker (P30) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). Best Available Control Technology (BACT) requirements under ch. NR 445, Wis. Adm. Code were established to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions from the 22 Maker (P30). The Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutants including formaldehyde and 4,4'-methylenedianiline (and dihydrochloride). According to s. NR 445.01(1)(b), Wis. Adm. Code, ch. NR 445, Wis. Adm. Code requirements do not apply to formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions from the 22 Maker (P30) because a MACT standard that regulates these pollutants applies to this process line. The facility has requested to remove these requirements. A construction permit is required to remove these BACT requirements because these requirements were established based on the ch. NR 445, Wis. Adm. Code requirements that applied at the time of installation or modification. As a result, the removal of the BACT requirements will be granted under construction permit 11-SJZ-179. The facility will be required to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions according to the Paper and Other Web Coating Operations MACT standard. The following BACT requirements listed in operation permit 612023940-P01 for the 22 Maker (P30) will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

[17] The applicant uses Method 320, which was allowed for the initial compliance test of the thermal oxidizer that was previously required.

4,4'-Methylenedianiline (and dihydrochloride):
I.D.2.a.(1) Best Available Control Technology (BACT): Emissions may not exceed 0.062 pound per hour. [s. NR 445.04(3), Wis. Adm. Code] *

I.D.2.b.(1)The operating combustion temperature of thermal oxidizer shall be at least 1500oF, based on an average over any 30 consecutive minutes.[s. NR 445.04(3), Wis. Adm. Code] *

I.D.2.b.(2) The permittee shall measure and record the temperature of the combustion chamber of the thermal oxidation system once for every 15 minutes of source operations. [s. NR 439.055(2)(a), Wis. Adm. Code] *

I.D.2.b.(3) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second. [s. NR 445.04(3), Wis. Adm. Code] *

I.D.2.b.(4)The permittee shall conduct a compliance test to demonstrate compliance with I.D.2.a.(1) as follows:
(a) prior to April 9, 2004;
(b) using a method approved by the Department in writing;
(c) if the compliance emission test cannot be conducted prior to April 9, 2004, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test.
(d) the compliance emission test shall be repeated once every two years.
(ss. NR 439.03 and NR 439.075, Wis. Adm. Code]

I.D.2.c.(1) Whenever compliance testing is required for 4,4' - methylene dianaline a method to be approved by the Department shall be used. [s. NR 439.06(8), Wis. Adm. Code] *

Formaldehyde:
I.D.3.a.(1) BACT: Emissions may not exceed 0.49 pound per hour. [s. NR 445.04(3), Wis. Adm. Code] *

I.D.3.b.(1) The operating combustion temperature of thermal oxidizer shall be at least 1500oF, based on an average over any 30 consecutive minutes.[s. NR 445.04(3), Wis. Adm. Code] *

I.D.3.b.(2) The permittee shall measure and record the temperature of the combustion chamber of the thermal oxidation system once for every 15 minutes of source operations. [s. NR 439.055(2)(a), Wis. Adm. Code] *

I.D.3.b.(3) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second. [s. NR 405.08, Wis. Adm. Code] *

I.D.3.b.(4) The permittee shall conduct a compliance test to demonstrate compliance with I.D.3.a.(1) as follows:
(a) prior to April 9, 2004;
(b) using a method approved by the Department in writing;
(c) if the compliance emission test cannot be conducted prior to April 9, 2004, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test.
(d) the compliance emission test shall be repeated once every two years.
(ss. NR 439.03 and NR 439.075, Wis. Adm. Code]

I.D.3.c.(1) Whenever compliance testing is required for formaldehyde emission, USEPA Method 0011, or NCASI Method 98.01, or another method approved by the Department in writing, shall be used. [s. NR 439.06(8), Wis. Adm. Code] *

Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker

The 21 Maker (P31) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). Best Available Control Technology (BACT) requirements under ch. NR 445, Wis. Adm. Code were established to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions from the 21 Maker (P31). The Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutants including formaldehyde and 4,4'-methylenedianiline (and dihydrochloride). According to s. NR 445.01(1)(b), Wis. Adm. Code, ch. NR 445, Wis. Adm. Code requirements do not apply to formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions from the 21 Maker (P31) because a MACT standard that regulates these pollutants applies. The facility has requested to remove these requirements. A construction permit is required to remove these BACT requirements because these requirements were established based on the ch. NR 445, Wis. Adm. Code requirements that applied at the time of installation or modification. As a result, the removal of the BACT requirements will be granted under construction permit 11-SJZ-179. The facility will be required to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions according to the Paper and Other Web Coating Operations MACT standard. The following BACT requirements listed in operation permit 612023940-P01 for the 21 Maker (P31) will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

<u>4,4'-Methylenedianiline (and dihydrochloride):</u>
I.E.3.a.(1) BACT: Emissions may not exceed 0.05 pound per hour. [s. NR 445.04(3), Wis. Adm. Code]

I.E.3.b.(1) The operating combustion temperature of thermal oxidizer shall be at least 1500oF, based on an average over any 30 consecutive minutes.[s. NR 445.04(3), Wis. Adm. Code]

I.E.3.b.(2) The permittee shall measure and record the temperature of the combustion chamber of the thermal oxidation system once for every 15 minutes of source operations. [s. NR 439.055(2)(a), Wis. Adm. Code]

I.E.3.b.(3) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second. [s. NR 445.04(3), Wis. Adm. Code]

I.E.3.b.(4) The permittee shall conduct a compliance test to demonstrate compliance with I.E.3.a.(1) as follows:
(a) prior to April 9, 2004;
(b) using a method approved by the Department in writing;
(c) if the compliance emission test cannot be conducted prior to April 9, 2004, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test.
(d) the compliance emission test shall be repeated once every two years.
(ss. NR 439.03 and NR 439.075, Wis. Adm. Code]

I.E.3.c.(1) Whenever compliance testing is required for 4,4' - methylene dianaline a method to be approved by the Department shall be used. [s. NR 439.06(8), Wis. Adm. Code]

<u>Formaldehyde:</u>
I.E.4.a.(1) BACT: Emissions may not exceed 2.26 pounds per hour [s. NR 445.04(3), Wis. Adm. Code]

I.E.4.b.(1) The operating combustion temperature of thermal oxidizer shall be at least 1500oF, based on an average over any 30 consecutive minutes.[s. NR 445.04(3), Wis. Adm. Code]

I.E.4.b.(2) The permittee shall measure and record the temperature of the combustion chamber of the thermal oxidation system once for every 15 minutes of source operations. [s. NR 439.055(2)(a), Wis. Adm. Code]

I.E.4.b.(3) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second. [s. NR 445.04(3), Wis. Adm. Code]

I.E.4.b.(4) The permittee shall conduct a compliance test to demonstrate compliance with I.E.4.a.(1) as follows:
(a) prior to April 9, 2004;
(b) using a method approved by the Department in writing;
(c) if the compliance emission test cannot be conducted prior to April 9, 2004, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test.
(d) the compliance emission test shall be repeated once every two years.
(ss. NR 439.03 and NR 439.075, Wis. Adm. Code]

I.E.4.c.(1) Whenever compliance testing is required for formaldehyde emission, USEPA Method 0011, or NCASI Method 98.01, or another method approved by the Department in writing, shall be used. [s. NR 439.06(8), Wis. Adm. Code]

Process P32, Stack S16, Control Device C03 — Coiled Web Maker

The di(2-ethylhexyl) phthalate (CAS 117-81-7) emissions from the Coiled Web Maker (P32) exceed the ch. NR 445, Wis. Adm. Code threshold. Best Available Control Technology (BACT) requirements under ch. NR 445, Wis. Adm. Code have been established to limit di(2-ethylhexyl) phthalate emissions from the Coiled Web Maker (P32). The Coiled Web Maker (P32) is also subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). The Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutants including di(2-ethylhexyl) phthalate. According to s. NR 445.01(1)(b), Wis. Adm. Code, ch. NR 445, Wis. Adm. Code requirements do not apply to di(2-ethylhexyl) phthalate emissions from the Coiled Web Maker (P32) because a MACT standard that regulates di(2-ethylhexyl) phthalate applies to this process line. The facility has requested to remove this limit. A construction permit is required to remove these BACT requirements because these requirements were established based on the ch. NR 445, Wis. Adm. Code requirements that applied at the time of installation or modification. As a result, the removal of the BACT requirements will be granted under construction permit 11-SJZ-179. The facility will be required to limit di(2-ethylhexyl) phthalate emissions according to the Paper and Other Web Coating Operations MACT standard. The following BACT requirements listed in operation permit 612023940-P01 for the Coiled Web Maker (P32) will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

<u>Di(2-Ethylhexyl) Phthalate:</u>
I.I.2.a.(1) BACT;
(a) To meet BACT, the permittee shall operate a wet electrostatic precipitator (ESP) to control di-(2-ethylhexyl) phthalate emissions from each oven;
(b) Di-(2-ethylhexyl) phthalate emissions from each oven shall be controlled by 97%, unless
(c) emission rate from each oven is less than or equal to 0.0285 pound per hour. [s. NR 445.05(3), Wis. Adm. Code* and s. 285.65(7), Wis. Stats.]

I.I.2.b.(1) The inlet temperature to the wet ESP may not exceed 175oF. [s. 285.65(7), Wis. Stats.]

I.I.2.b.(2) If three or more secondary voltages in a bank are less than 4500 volts, or the voltages are otherwise suspect, the device shall be shutdown, along with the process. [s. 285.65(7), Wis. Stats.]

I.I.2.c.(1) Whenever compliance testing is required for di-(2-ethyl hexyl) phthalate emissions, NIOSH Method 5020 or another method approved by the Department shall be used. [s. NR 439.06(8), Wis. Adm. Code]

I.I.2.c.(2) The permittee shall measure and record the inlet temperature of the wet ESP once for every 15 minutes of source operations. [ss. NR 439.055 and NR 439.055(5), Wis. Adm. Code]

I.I.2.c.(3) Secondary voltages for all collector cells shall be monitored and recorded at least twice per operating day. [s. NR 439.055, Wis. Adm. Code]

Process P40, Stack S260 — Columbia Press

No state hazardous air pollutants are emitted from this emission unit.

Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning

The Salt Bath Parts Cleaning (P52) is not subject to a MACT standard. As a result, the formaldehyde emissions from this process are subject to ch. NR 445, Wis. Adm. Code requirements. The Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), Salt Bath Parts Cleaning (P52), and 25 Maker (P56) each discharge to a stack that is between 40 feet and less than 75 feet in height and are in the same stack category under ch. NR 445, Wis. Adm. Code. Formaldehyde emissions from the Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), and 25 Maker (P56) are not subject to ch. NR 445, Wis. Adm. Code requirements because these process lines are subject to a MACT standard, per s. NR 445.01(1)(b), Wis. Adm. Code. As a result, formaldehyde emissions from the Thinsulate Maker (P50) and Salt Bath Parts Cleaning (P52) are now the only formaldehyde emissions that will be compared to the ch. NR 445, Wis. Adm. Code threshold for stacks that are in the 40 feet and less than 75 feet in height stack category. Formaldehyde emissions from the Salt Bath Parts Cleaning (P52) are less than the ch. NR 445, Wis. Adm. Code threshold. No further review is necessary.

Process P56, Stacks S14, S240, S250, Control Device C01 — 25 Maker

The 25 Maker (P56) is subject to the Paper and Other Web Coating Operations MACT standard in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). The Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutants including formaldehyde. Best Available Control Technology (BACT) requirements under ch. NR 445, Wis. Adm. Code were established to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions from the 25 Maker (P56). According to s. NR 445.01(1)(b), Wis. Adm. Code, ch. NR 445, Wis. Adm. Code requirements do not apply to the 25 Maker (P56) because a MACT standard that regulates formaldehyde applies to this process line. The facility has requested to remove these limits. A construction permit is required to remove these BACT requirements because these requirements were established based on the ch. NR 445, Wis. Adm. Code requirements that applied at the time of installation or modification. As a result, the removal of the BACT requirements will be granted under construction permit 11-SJZ-179. The facility will be required to limit formaldehyde and 4,4'-methylenedianiline (and dihydrochloride) emissions according to the Paper and Other Web Coating Operations MACT standard. As a result, the following BACT requirements listed in operation permit 01-POY-017-OP for the 25 Maker (P56) will not be included in construction permit 11-SJZ-179 and operation permit 612023940-P10.

<u>Formaldehyde:</u>

I.A.2.a.(1) Best Available Control Technology for Hazardous Pollutants (HBACT); and 2.26 pounds per hour from the oxidizer stack
[s. NR 445.04(3)(b), Wis. Adm. Code]

I.A.2.b.(1) To meet HBACT, the permittee shall comply with the following:
(a) A thermal oxidizer system as set forth below shall be used to control formaldehyde emissions whenever the 25 Maker is in operation;
(b) The thermal oxidizer system shall be operated at a temperature of at least 1500 □F;
(c) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second.
[s. NR 445.04(3)(b), Wis. Adm. Code]

I.A.2.c.(1)(a) Whenever formaldehyde compliance stack emission testing is required, USEPA Method 0011, or another method approved by the Department in writing shall be used. [' NR 439.08, Wis. Adm. Code]

I.A.2.c.(2) The permittee shall continuously monitor and record the operating temperature of the thermal oxidizer. (s. NR 439.055, Wis. Adm. Code)

I.A.2.c.(3) The permittee shall keep daily records of the amounts used, in gallons, and the formaldehyde contents, in pounds of formaldehyde per gallon of coating as applied, of all coatings used in the 25 Maker. (s. NR 439.04, Wis. Adm. Code)

<u>4,4'-Methylenedianiline (and dihydrochloride):</u>
I.A.3.a.(1) Best Available Control Technology for Hazardous Pollutants (HBACT); and 0.05 pound per hour from the oxidizer stack
[s. NR 445.04(3)(b), Wis. Adm. Code]

I.A.3.b.(1) To meet HBACT, the permittee shall comply with the following:
(a) A thermal oxidizer system as set forth below shall be used to control 4,4'-MDA emissions whenever the 25 Maker is in operation;
(b) The thermal oxidizer system shall be operated at a temperature of at least 1500 □F;
(c) Residence time of combustion gases in the thermal oxidizer system shall be at least 0.75 second.
[s. NR 445.04(3)(b), Wis. Adm. Code]

I.A.3.c.(1)(a) Whenever 4,4'-MDA compliance stack emission testing is required, a method approved by the Department shall be used. [' NR 439.08, Wis. Adm. Code]

I.A.3.c.(2) The permittee shall continuously monitor and record the operating temperature of the thermal oxidizer. (s. NR 439.055, Wis. Adm. Code)

I.A.3.c.(3) The permittee shall keep daily records of the amounts used, in gallons, and the 4,4'-MDA contents, in pounds of 4,4'-MDA per gallon of coating as applied, of all coatings used in the 25 Maker. (s. NR 439.04, Wis. Adm. Code)

Process P65, Stacks S45, S45A, S46B, S46C — 26 Maker

The only state hazardous air pollutants emitted from the 26 Maker (P65) are from the combustion of natural gas. State hazardous air pollutants from natural gas combustion are exempt from ch. NR 445, Wis. Adm. Code requirements because this fuel is a group 1 virgin fossil fuel, per s. NR 445.07(5)(a), Wis. Adm. Code.

Process P66, Stack S49 — Urethane (MDI) Sponge Coating Process

The Urethane (MDI) Sponge Coating Process (P66) generates methylene bisphenyl isocyanate (methylene diphenyl isocyanate; MDI) (CAS 101-68-8) emissions. The emissions are less than the s. NR

445.07, Wis. Adm. Code significance threshold. However, methylene bisphenyl isocyanate emissions are greater than the ch. NR 407, Wis. Adm. Code significance threshold. As a result, the Urethane (MDI) Sponge Coating Process (P66) is considered a significant emission unit for methylene bisphenyl isocyanate. Since the Urethane (MDI) Sponge Coating Process (P66) is a significant emission unit and the methylene bisphenyl isocyanate emissions are less than the s. NR 445.07, Wis. Adm. Code threshold, general requirements for hazardous air contaminant emissions outlined in s. NR 445.03, Wis. Adm. Code apply. These general conditions are included in Part II of the operation permit.

Process P67, Stack S47, S48, Control Device C21 — 27 Maker Coral Line

The state hazardous air pollutants generated by the 27 Maker Coral Line (P67) are chloroethane (CAS 75-00-3) and phenol (CAS 108-95-2) emissions. Chloroethane emissions are less than the ch. NR 407, Wis. Adm. Code significance threshold. Phenol emissions are greater than the ch. NR 407, Wis. Adm. Code significance threshold so the 27 Maker Coral Line (P67) is considered a significant emission unit. Chloroethane and phenol emissions from the entire facility, including the 27 Maker Coral Line (P67) emissions, are less than the thresholds for the s. NR 445.07, Wis. Adm. Code stack categories. Since the 27 Maker Coral Line (P67) is a significant emission unit and the chloroethane and phenol emissions are less than the s. NR 445.07, Wis. Adm. Code threshold, general requirements for hazardous air contaminant emissions outlined in s. NR 445.03, Wis. Adm. Code apply.

At the time of the review for construction permit exemption 08-SJZ-231-EXM, Building 49 and Building 50 were considered separate facilities and Building 49 was considered a minor source for federal hazardous air pollutants. The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) did not apply to 27 Maker Coral Line (P67) when construction permit exemption 08-SJZ-231-EXM was issued because Building 49 was considered a minor source for federal hazardous air pollutants. Now that Building 49 and Building 50 will become one facility and a major source for federal hazardous air pollutants upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, all process lines in Building 49 will now be operated at a major source for federal hazardous air pollutants. Since Building 49 will be considered a major source for federal hazardous air pollutants when construction permit 11-SJZ-179 and operation permit 612023940-P10 will be issued, the 27 Maker Coral Line (P67) will be subject to the Paper and Other Web Coating Operations MACT standard and will no longer be subject to the general hazardous air contaminant requirements in s. NR 445.03, Wis. Adm. Code, per s. NR 445.01(1)(b), Wis. Adm. Code.

Process P68, Stack S68 — Sanding Cloth Line

No state hazardous air pollutants are emitted from these emission units.

Process P69, Stack S69, Control Device C69 — Thinsulate Maker

Stack S69 is in the stack category for stacks between 25 feet and less than 40 feet in height. The state hazardous air pollutants emitted from processes with stacks between 25 feet and less than 40 feet in height, including the Thinsulate Maker (P69), are less than the s. NR 445.07, Wis. Adm. Code thresholds. No further review is necessary.

Process P270, Stack S270 — Post Cure Oven

No state hazardous air pollutants are emitted from these emission units.

Process P271, Stack S271 — 285 kW Emergency Diesel Generator

State hazardous air pollutant emissions from Emergency Diesel Generator (P271) are exempt from ch. NR 445, Wis. Adm. Code requirements because diesel fuel is a group 1 virgin fossil fuel, per s. NR 445.07(5)(a), Wis. Adm. Code. Emergency Diesel Generator (P271) is not subject to s. NR 445.09, Wis. Adm. Code requirements because the engine is considered an emergency electric generator, per s. NR 400.02(56), Wis. Adm. Code and s. NR 445.09(1)(c), Wis. Adm. Code.

FEDERAL HAZARDOUS AIR POLLUTANT REVIEW

The potential emissions for individual federal hazardous air pollutants are greater than 10 tons per year and the total potential emissions of all federal hazardous air pollutants combined for the entire facility is greater than 25 tons per year. As a result, the facility is classified as a major source for federal hazardous air pollutants.

GREENHOUSE GAS EMISSIONS

The Title V major source thresholds for greenhouse gas emissions are 100 tons per year for greenhouse gas mass emissions and 100,000 tons per year for total carbon dioxide equivalent emissions. For a facility to be considered a Title V major source for greenhouse gas emissions, the greenhouse gas mass emissions must be greater than the 100 tons per year and the total greenhouse gas carbon dioxide equivalent emissions must be greater than 100,000 tons per year.

The facility emits greenhouse gas emissions as a result of natural gas and #2 fuel oil combustion. The greenhouse gas pollutants emitted include carbon dioxide, methane, and nitrous oxide. The total greenhouse gas mass emissions from the entire facility are greater than 100 tons per year and the total carbon dioxide equivalent emissions are less than 100,000 tons per year. As a result, the facility is considered a minor source for greenhouse gases. Please refer to the APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS for all greenhouse gas emissions calculations and the "FACILITY EMISSIONS" section for all emissions.

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Standards of Performance For New Stationary Sources: Standards of Performance For Pressure Sensitive Tape and Label Surface Coating Operations in 40 CFR Part 60 Subpart RR (40 CFR 60.440-60.447)

- **Modify an existing web coating line or surface coating process (Part III.A.1.)**
- **Construct or install a new web coating line (Part III.A.2.)**
- **Subsequent modification of web coating lines or surface coating processes installed under authority of this permit (Part III.A.4.)**

The Standards of Performance (NSPS) For Pressure Sensitive Tape and Label Surface Coating Operations in 40 CFR Part 60 Subpart RR (40 CFR 60.440-60.447) applies to any coating line used in the manufacturing of pressure sensitive tape and label materials, per 40 CFR 60.440. A coating line is defined in 40 CFR 60.441 as any number or combination of adhesive, release, or pre-coat coating applicators, flashoff areas, and ovens which coat a continuous web, located between a web unwind station and a web rewind station, to produce pressure sensitive tape and label materials. Pressure sensitive tape and label materials is not defined under the Pressure Sensitive Tape and Label Surface Coating Operations NSPS. Operations at the facility do not manufacture pressure sensitive tape and label materials and are not subject to the Pressure Sensitive Tape and Label Surface Coating Operations NSPS requirements at the time of this review. However, future modifications of existing lines and installation

of new lines under construction permit 11-SJZ-179 and operation permit 612023940-P10 may be subject to the Pressure Sensitive Tape and Label Surface Coating Operations NSPS. As a result, the projects/facility changes including modifying an existing web coating line or surface coating process and the installation of a new web coating line installed under authority of construction permit 11-SJZ-179 and operation permit 612023940-P10 will include the Pressure Sensitive Tape and Label Surface Coating Operations NSPS requirements.

If the modification of an existing web coating line or surface coating process, installation of a new web coating line, or the modification of web coating lines or surface coating processes installed under authority of construction permit 11-SJZ-179 and operation permit 612023940-P10 is subject to the Pressure Sensitive Tape and Label Surface Coating Operations NSPS standard, then volatile organic compound emissions will be limited to 0.20 kilograms per kilogram of coating solids applied as calculated on a weighted average basis for one calendar month, reduce the overall volatile organic compound emissions by 90 percent, or reduce the emissions by the percent calculated in 40 CFR 60.443(b), per 40 CFR 60.442(a)(1) and (2). These requirements apply to each modification of an existing web coating line or surface coating process, installation of a new web coating line, and modification of web coating lines or surface coating processes installed under authority of construction permit 11-SJZ-179 and operation permit 612023940-P10.

To demonstrate compliance, the facility will be required to calculate the weighted average of the mass of the solvent used per mass of coating solids applied for a one calendar month period according to 40 CFR 443(a), calculate the required overall VOC emission reduction according to 40 CFR 60.443(b), determine the overall VOC emission reduction for one calendar month period according to 40 CFR 60.443(c) if a solvent recovery system is used to meet the emission limit, compare the monthly required overall VOC emission reduction to the overall VOC emission reduction demonstrated in the most recent performance test if a solvent recovery system is used to meet the emission limit, or continuously record the destruction device combustion temperature during coating operations for thermal incineration destruction devices or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration destruction devices according to 40 CFR 60.443(e) if a solvent recovery system is used to meet the emission limit, per 40 CFR Part 60.443(e). To verify compliance, the facility will be requried to meet the monitoring and recordkeeping requirements in 40 CFR 60.445 and the reporting requirements in 40 CFR 60.447.

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD

National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Industrial, Commercial, or Institutional Boilers for Major Sources in 40 CFR Part 63 Subpart DDDDD (63.7480-63.7575)
Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2
Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3
Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4

On January 9, 2012, the U.S. District Court for the District of Columbia Circuit vacated the EPA's stay of the National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Industrial, Commercial, or Institutional Boilers for Major Sources in 40 CFR Part 63 Subpart DDDDD (63.7480-63.7575). The stay of the Boiler MACT rule was issued on May 18, 2011. The vacatur meant that the Boiler MACT was effective immediately. However, the only near-term

requirement on sources would have been the notification requirements. EPA plans to issue the final Boiler MACT within several months.

At this time, the facility is required to meet all applicable requirements in the Boiler MACT standard, where applicable. The facility is also be required to meet the general provision requirements in 40 CFR Part 63 Subparts A, where applicable. Any changes to the Boiler MACT requirements made after the issuance of this permit will be incorporated into the operation permit through an operation permit revision or at the next operation permit renewal.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420)
Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process
Process P30, Stack S14, Control Device C01 — 22 Maker
Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker
Process P32, Stack S16, Control Device C03 — Coiled Web Maker
Process P44, Stack S34, Control Device C11 — Safety Walk Maker
Process P55, Stack S14, Control Device C01 — 24CC Maker
Process P56, Stacks S14, S230, S240, Control Devices C01 — 25 Maker
Process P67, Stacks S49, Control Devices C21 — 27 Maker Coral Line
Process P68, Stack S68 — Sanding Cloth Line
Process I1 — General Purpose Bun Coater
Process I2 — 2A Fiber Line
Process I3 — General Purpose Polyurethane Foam Process (Slab Press)
Process I4 — Roloc Semi-Automated and Manual Disc Assembly
Process I5 — Rotopeen Line

The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) applies to all web coating lines operated at a facility that is a major source for federal hazardous air pollutants, according to 40 CFR 63.3290. A web coating line means any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station, per 40 CFR 63.3310. The facility is considered a major source for federal hazardous air pollutants and operates web coating lines.

The following process lines are considered web coating lines at the facility:

Process P30, Stack S14, Control Device C01 — 22 Maker
Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker
Process P32, Stack S16, Control Device C03 — Coiled Web Maker
Process P44, Stack S34, Control Device C11 — Safety Walk Maker
Process P56, Stacks S14, S230, S240, Control Devices C01 — 25 Maker
Process P67, Stacks S49, Control Devices C21 — 27 Maker Coral Line
Process P68, Stack S68 — Sanding Cloth Line
Process I1 — General Purpose Bun Coater
Process I2 — 2A Fiber Line

The 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), and 2A Fiber Line (I2) apply a continuous layer of coating material across the entire width or any portion of the

width of a web substrate and are considered web coating lines. These process lines are subject to the Paper and Other Web Coating Operations MACT JJJJ standard.

The following process lines are not considered web coating lines but are subject to the Paper and Other Web Coating Operations MACT JJJJ standard as an alternative to meeting the Miscellaneous Metal Parts and Products MACT MMMM standard and Surface Coating of Plastic Parts and Products MACT PPPP standard:

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process
Process P55, Stack S14, Control Device C01 — 24CC Maker
Process I3 — General Purpose Polyurethane Foam Process (Slab Press)
Process I4 — Roloc Semi-Automated and Manual Disc Assembly
Process I5 — Rotopeen Line

The Roloc Semi-Automated and Manual Disc Assembly (I4) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Miscellaneous Metal Parts and Products in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981). Since at least 90 percent of the surface coating operations at the facility are web coating operations that are subject to the Paper and Other Web Coating Operations MACT JJJJ standard, the facility is allowed to meet the Miscellaneous Metal Parts and Products MACT MMMM standard for the Roloc Semi-Automated and Manual Disc Assembly (I4) by meeting the Paper and Other Web Coating Operations MACT JJJJ standard, per 40 CFR 63.3881(e)(2). As a result, the Roloc Semi-Automated and Manual Disc Assembly (I4) is subject to the Paper and Other Web Coating Operations MACT JJJJ standard.

The Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) are subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Plastic Parts and Products in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581). Since at least 90 percent of the surface coating operations at the facility are web coating operations that are subject to the Paper and Other Web Coating Operations MACT JJJJ standard, the facility is allowed to meet the for the Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) by meeting the Paper and Other Web Coating Operations MACT JJJJ standard, per 40 CFR 63.4481(e)(2). As a result, the Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) are subject to the Paper and Other Web Coating Operations MACT JJJJ standard.

As a result of the Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) meeting the Paper and Other Web Coating Operations MACT JJJJ standard as an alternative to meeting the Miscellaneous Metal Parts and Products MACT MMMM standard and Surface Coating of Plastic Parts and Products MACT PPPP standard, the collection of equipment which is subject to Paper and Other Web Coating Operations MACT JJJJ standard thereby becomes the following:

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process

Process P30, Stack S14, Control Device C01 — 22 Maker
Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker
Process P32, Stack S16, Control Device C03 — Coiled Web Maker
Process P44, Stack S34, Control Device C11 — Safety Walk Maker
Process P55, Stack S14, Control Device C01 — 24CC Maker
Process P56, Stacks S14, S230, S240, Control Devices C01 — 25 Maker
Process P67, Stacks S49, Control Devices C21 — 27 Maker Coral Line
Process P68, Stack S68 — Sanding Cloth Line
Process I1 — General Purpose Bun Coater
Process I2 — 2A Fiber Line
Process I3 — General Purpose Polyurethane Foam Process (Slab Press)
Process I4 — Roloc Semi-Automated and Manual Disc Assembly
Process I5 — Rotopeen Line

In addition to the existing lines, the following pre-approved projects/facility changes are also subject to the Paper and Other Web Coating Operations MACT JJJJ standard:

(a) Modify an existing web coating line or surface coating process
(b) Construct or install a new web coating line.
(c) Construct or install a new plastic or metal parts surface coating process
(d) Subsequent modification of web coating lines or surface coating processes constructed or installed under authority of this permit
(e) Installation of new or modification of existing air pollution control devices

The modification or construction of these types of sources are considered a Paper and Other Web Coating Operations MACT JJJJ affected source or meet the Paper and Other Web Coating Operations MACT JJJJ standard as an alternative to meeting other MACT standards. The construction or installation of a new plastic or metal parts surface coating process is not considered affected sources under the Paper and Other Web Coating Operations MACT standard but meet the Paper and Other Web Coating Operations MACT standard as an alternative to meeting the Miscellaneous Metal Parts and Products MACT MMMM standard and Surface Coating of Plastic Parts and Products MACT PPPP standard.

For the purposes of the Paper and Other Web Coating MACT JJJJ applicability, 3M Prairie du Chien is considered an existing affected source because the facility was in operation prior to September 13, 2000 and prior to the finalizing of this rule. An affected source is the collection of all web coating lines at the facility, per 40 CFR 63.3300. An <u>existing affected source</u> means any source constructed or reconstructed on or before September 13, 2000, and has not undergone reconstruction as defined in 40 CFR 63.2, per 40 CFR 63.3310. <u>Construction</u> means the on-site fabrication, erection, or installation of an affected source., per 40 CFR 63.2 <u>Reconstruction</u> means the replacement of components of an affected or a previously non-affected source to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source and it is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act, per 40 CFR 63.2. The facility was constructed before September 13, 2000, has not undergone reconstruction, and is considered an existing affected source. The installation of a new web coating line or the modification of an existing web coating line is considered a modification to an existing affected source.

The facility is allowed to bypass the regenerative thermal oxidizer C01 when using coatings containing not more than 0.5 percent. Bypassing the oxidizer in this fashion is not considered an intermittently-

controlled work station for Paper and Other Web Coating Operations MACT JJJJ applicability purposes. Intermittently-controlled work stations means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device through a bypass line, depending on the position of a valve or damper, per 40 CFR 63.3310.

Organic Hazardous Air Pollutant Emission Limits: The facility is required to limit organic hazardous air pollutant (HAP) emissions from the Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Safety Walk Maker (P44), 24CC Maker (P55), 25 Maker (P56), 27 Maker Coral Line (P67), Sanding Cloth Line (P68), General Purpose Bun Coater (I1), 2A Fiber Line (I2), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) to one of the following, per 40 CFR 63.3320(b)(1), (2), (3), and (4):

(a) No more than 5 percent of the organic HAP applied for each month (95 percent reduction); OR
(b) No more than 4 percent of the mass of coating materials applied for each month; OR
(c) No more than 20 percent of the mass of coating solids applied for each month; OR
(d) If an oxidizer is used to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.

Performance Test: For each thermal oxidizer used to demonstrate compliance with the emission limits, the facility will be required to conduct a performance test to determine the combustion temperature limit, the destruction or removal efficiency of the thermal oxidizer, and the capture efficiency, per 40 CFR 3360(a)(2). The combustion temperature limit is the minimum combustion temperature for the thermal oxidizer. The facility is required to maintain the average combustion temperature in any 3-hour period at a temperature not less than the combustion temperature limit. Maintaining the temperature that demonstrated compliance during a performance test will ensure that the thermal oxidizer is operating at a control efficiency that satisfies the emission limits. Determining the destruction or removal efficiency and capture efficiency during the performance test will show that the thermal oxidizer is operating efficiently and verify that the emission limits are being met. The facility may use a different control device besides a thermal oxidizer to demonstrate compliance as long as a request is submitted to the department for approval for an alternative monitoring method under 40 CFR 63.8(f), per 40 CFR 63.3321(b), 40 CFR 3350(a)(3), 40 CFR 63.3350(e)(10). At the time of this review, the control device used to meet the Paper and Other Web Coating Operations MACT JJJJ requirements is regenerative thermal oxidizer C01.

Continuous Parameter Monitoring System (CPMS): For each oxidizer used to demonstrate compliance, the facility will be required to install, operate, and maintain a continuous parameter monitoring system (CPMS) according to the manufacturer's specifications, per 40 CFR 3350(a)(3), 40 CFR 63.3350(e)(9)(i) and (ii). For each oxidizer, the facility will be required to install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. Continuously monitoring the temperature will verify that the combustion temperature is at a minimum temperature that demonstrated compliance with the emission limits during the last performance test. The facility will be required to verify the calibration of the chart recorder, data logger, or temperature indicator every 3 months. Verifying the calibration will ensure that the monitoring equipment is operating properly and the data collected represents the actual value of the parameter being measured. The facility will also be required to record the results of each inspection, calibration, and validation check of the continuous parameter

monitoring system. Records of the inspections, calibrations, and validation checks will verify that the facility is demonstrating compliance with the emission limits.

A continuous parameter monitoring system is specified in the Paper and Other Web Coating Operations MACT JJJJ standard. However the general provision requirements in 40 CFR 63.10, which is referenced in Paper and Other Web Coating Operations MACT JJJJ standard, specifies a continuous monitoring system (CMS). According to 40 CFR 63.2, a continuous monitoring system includes a continuous parameter monitoring system. For the purposes of this review, the monitoring system mentioned in the Paper and Other Web Coating Operations MACT JJJJ standard and 40 CFR 63.10 requirements is considered a continuous parameter monitoring system.

Site-Specific Monitoring Plan: When using a capture system and control device to demonstrate compliance, the facility shall develop a site-specific monitoring plan that will identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained, explain why the parameter is appropriate for demonstrating ongoing compliance, and identify specific monitoring procedures, per 40 CFR 3350(a)(3), 40 CFR 63.3350(f)(1) and (2). The monitoring plan must include the operating parameter value or range of values that demonstrate compliance with the emission standards.

"As-Purchased" Compliant Coating Materials: If demonstrating compliance by using as-purchased compliant coating materials, the facility must demonstrate that each coating material applied during the month contains no more than 0.04 kilogram of organic hazardous air pollutants per kilogram of coating material (0.04 pound of organic hazardous air pollutants per pound of coating material), or no more than 0.2 kilogram of organic hazardous air pollutants per kilogram coating solids (0.2 pound of organic hazardous air pollutants per pound coating solids) by determining the organic hazardous air pollutant content of the coating materials applied, per 40 CFR 63.3370(a)(1), 40 CFR 63.3370(b)(1), and 40 CFR 63.3370(c)(5)(i). The facility will determine the organic hazardous air pollutant and/or solids content of each coating material applied, on an as-purchased basis by using U.S. EPA Method 24, formulation data, or an alternative test method, approved by the Administrator at EPA in accordance with 40 CFR 63.7(f).

"As-Applied" Compliant Coating Materials: If demonstrating compliance by using as-applied compliant coating materials, the facility must demonstrate that the monthly average organic hazardous air pollutant content of all as-applied coating materials is no more than 0.04 kilogram of organic hazardous air pollutants per kilogram of coating material (0.04 pound of organic hazardous air pollutants per pound of coating material), or no more than 0.2 kilogram of organic hazardous air pollutants per kilogram coating solids (0.2 pound of organic hazardous air pollutants per pound coating solids) by determining the monthly average organic hazardous air pollutant content of all as-applied coating materials, per 40 CFR 63.3370(a)(2), and 40 CFR 63.3370(c)(3) and (4), 40 CFR 63.3370(c)(5)(ii). The facility shall determine the monthly average organic hazardous air pollutant content of all as-applied coating materials according to one of the following:

(a) Demonstrate that the monthly average as-applied VOC content of all coating materials as-applied is less than 0.04 kg VOC per kg of coating material applied (0.04 pound VOC per pound of coating material), as determined by the following:

$$H_L = \frac{\sum_{i=1}^{p} C_{hi} M_i + \sum_{j=1}^{q} C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^{p} M_i + \sum_{j=1}^{q} M_{ij}} \qquad \text{Eq. 4}$$

Where:
H_L = Monthly average, as-applied, VOC content of all coating materials applied, expressed as kilogram VOC per kilogram of coating material applied, kg/kg.
p = Number of different coating materials applied in a month.
C_{hi} = VOC content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.
M_i = Mass of as-purchased coating material, i, applied in a month, kg.
q = Number of different materials added to the coating material.
C_{hij} = VOC content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.
M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.
M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in 40 CFR 63.3370.

OR

(b) Demonstrate that the monthly average as-applied VOC content of all coating materials is less than 0.20 kilogram VOC per kilogram coating solids applied, as determined by the following:

$$H_S = \frac{\sum_{i=1}^{p} C_{hi} M_i + \sum_{j=1}^{q} C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^{p} C_{Si} M_i + \sum_{j=1}^{q} C_{Sij} M_{ij}} \qquad \text{Eq. 5}$$

Where:
H_s = Monthly average, as-applied, VOC to coating solids ratio, kilogram VOC/kilogram coating solids applied.
p = Number of different coating materials applied in a month.
C_{hi} = VOC content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.
M_i = Mass of as-purchased coating material, i, applied in a month, kg.
q = Number of different materials added to the coating material.
C_{hij} = VOC content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.
M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.
M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in 40 CFR 63.3370.
C_{si} = Coating solids content of coating material, i, expressed as a mass fraction, kg/kg.
C_{sij} = Coating solids content of material, j, added to as-purchased coating material, i, expressed as a mass-fraction, kg/kg.

Capture System and Control Device: When using a capture system and control device to demonstrate compliance with the emission limits, the facility will be required to follow the procedures in 40 CFR 63.3370(e), 40 CFR 63.3370(f), 40 CFR 63.3370(g), or 40 CFR 63.3370(h) based on the emission limit.

When using an oxidizer to control emissions and satisfy the emission limits, the facility will be required to determine the destruction efficiency and capture efficiency, monitor the capture and control efficiency, and determine the mass of coating, organic hazardous air pollutant content, and coating solids content. Monitoring the capture and control efficiency will ensure that the oxidizer is operating at an efficiency that demonstrated compliance with the emission limits during the most recent stack test. Determining the mass of coating, organic hazardous air pollutant content, and coating solids content each month will verify that the emission limits are being met.

The facility is required to record the control device and capture system operating parameters, operating parameters of the capture system and the value or range of these parameters; the information used to determine the capture efficiency and control device destruction or removal efficiency; the overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results; material usage, volatile organic compound usage, coating solids usage and the methods used to demonstration compliance using this data, per 40 CFR 63.3410(a)(1)(ii), (v), and (vi). The facility is also required to determine and record the total mass of each coating material applied each month to each web coating line. The facility is required to determine and record the as-purchased volatile organic content and coating solids content of each coating material applied. Keeping records of this information will verify that compliance is being demonstrated and the emission limits are being satisfied.

Alternative Control Device: The facility may control emissions using another type of control device besides an oxidizer or monitor an alternative parameter as approved by the department in writing, per 40 CFR 63.3350(e)(10).

Recordkeeping: To verify that the each control device is operating properly, the facility will be required to record the combustion temperature of each oxidizer, any operating parameters monitored by the continuous parameter monitoring system as recommended by the manufacturer for each control device, the hourly average of all continuous parameter monitoring system recorded readings for each control device, the rolling 3-hour average of all recorded readings for each operating period for each control device, the results of each inspection, calibration, and validation check of the continuous parameter monitoring system for each control device. Recording the combustion temperature for each oxidizer and other operating parameters monitored by the continuous parameter monitoring system for each control device will verify that the control devices are operating within a range that demonstrates compliance. Recording the results of each inspection, calibration, and validation check of the continuous parameter monitoring system will ensure that each control device is maintained and the data collected represents the actual value of the parameter being monitored. The facility will also be required to record the capture system operating parameters and the value or range of these parameters identified in the site-specific monitoring plan. These parameters will also verify that the capture efficiency is maintained and capture system is operating properly. The facility will also be required to record the overall control efficiency determination to verify that the control device is maintaining a minimum control efficiency to meet the emission requirements.

The facility will be required to record the total mass of each coating material, the “as-purchased" organic hazardous air pollutant content and coating solids content of each coating material applied, and the "as-applied" organic hazardous air pollutant content and coating solids content of each coating material applied, as applicable each month to each web coating line. These records will verify that the facility is demonstrating compliance with the emission limits.

Process P50, Stack S42, Control Device C07 — Thinsulate Maker
Process P69, Stack S69, Control Device C69 — Thinsulate Maker

Thinsulate Maker (P50) and (P69) laminate two fabric webs with an adhesive and are not a web coating line laminating a fabric substrate to paper. The products produced by Thinsulate Maker (P50) and (P69) are not considered to be flexible packaging, pressure sensitive tape, or abrasive materials. As a result, Thinsulate Maker (P50) and (P69) are not subject to the Paper and Other Web Coating Operations MACT standard.

Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area

The Mineral Coating For 21 Maker Area (P64) is not a web coating process. It is an unloading area for raw minerals that are used in the 21 Maker (P31). As a result, the Mineral Coating For 21 Maker Area (P64) is not subject to the Paper and Other Web Coating Operations MACT standard.

Process P65, Stacks S45, S45A, S46B, S46C — 26 Maker

The 26 Maker (P65) is considered a web coating line that coats fabric substrates that are not used in pressure sensitive tape and abrasive materials. Because the coated fabric substrates are not used in pressure sensitive tape and abrasive materials, the 26 Maker (P65) is not considered an affected source under the Paper and Other Web Coating Operations MACT standard and is not subject to this MACT standard, per 40 CFR 63.3300. In addition to not being considered an affected source under the Paper and Other Web Coating Operations MACT standard, the 26 Maker (P65) is also not subject to the Paper and Other Web Coating Operations MACT standard because this process meets the applicability of the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Printing, Coating, and Dyeing of Fabrics and Other Textiles in 40 CFR Part 63 Subpart OOOO (63.4480-63.4581), per 40 CFR 63.3300(f). However, the 26 Maker (P65) is exempt, per 40 CFR 63.4281(c)(1) and is explained below.

Process P67, Stack S47, S48, Control Device C21 — 27 Maker Coral Line

At the time of the review for construction permit exemption 08-SJZ-231-EXM, Building 49 and Building 50 were considered separate facilities and Building 49 was considered a minor source for federal hazardous air pollutants. The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420) did not apply to 27 Maker Coral Line (P67) when construction permit exemption 08-SJZ-231-EXM was issued because Building 49 was considered a minor source for federal hazardous air pollutants. Now that Building 49 and Building 50 will become one facility and a major source for federal hazardous air pollutants upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10, all process lines in Building 49 will now be operated at a major source for federal hazardous air pollutants and the 27 Maker Coral Line (P67) will be subject to the Paper and Other Web Coating Operations MACT standard.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Miscellaneous Metal Parts and Products in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981)

Process I4 — Roloc Semi-Automated and Manual Disc Assembly

The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Miscellaneous Metal Parts and Products in 40 CFR Part 63 Subpart MMMM (63.3880-63.3981) applies to any miscellaneous metal parts and products surface coating operation that uses more than 250 gallons per year of coating located at a major source for federal hazardous air pollutants, per 40 CFR 63381(b). Miscellaneous metal parts and products include, but are not limited to, metal components of the following types of products as well as the products themselves: motor vehicle parts and accessories, bicycles and sporting goods, recreational vehicles, extruded aluminum structural components, railroad cars, heavy duty trucks, medical equipment, lawn and garden equipment, electronic equipment, magnet wire, steel drums, industrial machinery, metal pipes, and numerous other industrial, household, and consumer products. The metal part coated in the Roloc Semi-Automated and Manual Disc Assembly (I4) is considered an industrial, household, and consumer product. The Roloc Semi-Automated and Manual Disc Assembly (I4) is subject to the Miscellaneous Metal Parts and Products MACT standard because this process coats miscellaneous metal parts and the amount of coating used is greater than 250 gallons per year. In addition, the facility is considered a major source for federal hazardous air pollutants.

At least 90 percent of the surface coating operations at the facility are subject to the Paper and Other Web Coating Operations MACT standard. According to 40 CFR 63.3881(e)(2), a facility may elect to meet the requirements in the Paper and Other Web Coating MACT standard as an alternative to meeting the requirements in the Surface Coating of Miscellaneous Metal Parts and Products MACT standard as long as the facility demonstrates that the primary coating operations at the facility are web coating operations and meet the Paper and Other Web Coating MACT requirements. The facility has demonstrated that at least 90 percent of the surface coating operations at the facility are web coating operations and are subject to the Paper and Other Web Coating MACT standard. Therefore, the Roloc Semi-Automated and Manual Disc Assembly (I4) meet the Surface Coating of Plastic Parts and Products MACT standard by meeting the Paper and Other Web Coating MACT standard.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Printing, Coating, and Dyeing of Fabrics and Other Textiles in 40 CFR Part 63 Subpart OOOO (63.4280-63.4371)

Process P50, Stack S42, Control Device C07 — Thinsulate Maker

Process P69, Stack S69, Control Device C69 — Thinsulate Maker

The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Printing, Coating, and Dyeing of Fabrics and Other Textiles in 40 CFR Part 63 Subpart OOOO (63.4280-63.4371) does not apply to Thinsulate Maker (P50) and (P69) because the coatings used in these processes contain no organic hazardous air pollutants, per 40 CFR 63.4281(c)(1). No organic hazardous air pollutants means no organic hazardous air pollutant is present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds, per 40 CFR 63.4371. The organic hazardous air pollutant content of a regulated material is determined according to 40 CFR 63.4321(e)(1).

Process P54, Stack S54 — Belt Making Area

The Belt Making Area (P54) involves coating two ends of a fabric material with glue and attaching the ends to make an abrasive belt. The gluing and attaching process is done at ambient temperature and without the use of an oven or dryer. The abrasive material can be considered fabric. A fabric means any woven, knitted, plaited, braided, felted, or non-woven material made of filaments, fibers, or yarns including thread, per 40 CFR 63.4371. This term includes material made of fiberglass, natural fibers, synthetic fibers, or composite.

The Printing, Coating, and Dyeing of Fabrics and Other Textiles MACT standard does not apply to the Belt Making Area (P54) because the coating operations is conducted at ambient temperatures that do not involve drying or curing equipment such as ovens, tenter frames, steam cans, or dryers, per 40 CFR 63.4281(c)(4).

Process P65, Stacks S45, S45A, S46B, S46C — 26 Maker

The 26 Maker (P65) is not subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Printing, Coating, and Dyeing of Fabrics and Other Textiles in 40 CFR Part 63 Subpart OOOO (63.4280-63.4371) because no organic hazardous air pollutant is present in the organic-hazardous air pollutant containing regulated materials at 1.0 percent by mass or more and the organic-containing materials used in the coating operations contain no organic hazardous air pollutants, per 40 CFR 63.4371.

The 26 Maker (P65) is considered a web coating line that coats fabric substrates that are not used in pressure sensitive tape and abrasive materials. Also, the 26 Maker (P65) meets the coating and printing subcategory criteria in 40 CFR 63.4281(a)(1). The coating and printing subcategory includes any operation that coats or prints fabric or other textiles. The coating operation of the 26 Maker (P65) uses only regulated materials that contain no organic hazardous air pollutants. Regulated materials are organic-containing materials used in the three printing, coating, and dyeing subcategories defined in 40 CFR 63.4281(a), per 40 CFR 63.4371. Organic-hazardous air pollutant containing regulated materials are the source of the organic hazardous air pollutant emissions subject to emission requirements, per 40 CFR 63.4371. No organic hazardous air pollutant means no organic hazardous air pollutant is present in the organic-hazardous air pollutant containing regulated materials at 0.1 percent by mass or more for Occupation Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds, per 40 CFR 63.4371. According to the facility, the organic hazardous air pollutant content of a regulated material is 0.3 percent by mass. Because no organic hazardous air pollutant is present in the organic-hazardous air pollutant containing regulated materials at 1.0 percent by mass or more, the organic-containing materials used in the coating operations contain no organic hazardous air pollutants, per 40 CFR 63.4371. As a result, the 26 Maker (P65) is not subject to the Printing, Coating, and Dyeing of Fabrics and Other Textiles MACT standard, per 40 CFR 63.4281(c)(1). The facility will be required to keep records showing that the coatings used in the 26 Maker (P65) do not contain 1.0 percent by mass or more of organic hazardous air pollutants and verify that the Printing, Coating, and Dyeing of Fabrics and Other Textiles MACT standard does not apply to the 26 Maker (P65), per 40 CFR 63.4281(c)(1) and 40 CFR 63.4371.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Plastic Parts and Products in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581)

Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process

Process P55, Stack S14, Control Device C01 — 24CC Maker

Process I3 — General Purpose Polyurethane Foam Process (Slab Press) (I3)
Process I4 — Roloc Semi-Automated and Manual Disc Assembly
Process I5 — Rotopeen Line

The National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Surface Coating of Plastic Parts and Products in 40 CFR Part 63 Subpart PPPP (63.4480-63.4581) applies to the plastic parts and products surface coating operations that use more than 100 gallons per year of coatings located at a major source for federal hazardous air pollutants, per 40 CFR 63.4481(b). Plastic part and product means any piece or combination of pieces of which at least one has been formed from one or more resins. Such pieces may be solid, porous, flexible or rigid, per 40 CFR 63.4581. The Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) coat plastic parts and products, use more than 100 gallons per year of coatings, and are subject to the Surface Coating of Plastic Parts and Products MACT standard requirements. The facility is considered a major source for federal hazardous air pollutants.

At least 90 percent of the surface coating operations at the facility are subject to the Paper and Other Web Coating Operations MACT standard. According to 40 CFR 63.4481(e)(2), a facility may elect to meet the requirements in the Paper and Other Web Coating MACT standard as an alternative to meeting the requirements in the Surface Coating of Plastic Parts and Products MACT standard as long as the facility demonstrates that the primary coating operations at the facility are web coating operations and meet the Paper and Other Web Coating MACT requirements. The facility has demonstrated that at least 90 percent of the surface coating operations at the facility are web coating operations and are subject to the Paper and Other Web Coating MACT standard. Therefore, the Abrasive Sponge Coating Process (P07), 24CC Maker (P55), General Purpose Polyurethane Foam Process (Slab Press) (I3), Roloc Semi-Automated and Manual Disc Assembly (I4), and Rotopeen Line (I5) meet the Surface Coating of Plastic Parts and Products MACT standard requirements by meeting the Paper and Other Web Coating MACT standard.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Miscellaneous Coating Manufacturing in 40 CFR Part 63 Subpart HHHHH (63.7980-63.8105)
Process P36, Stack S14, Control Device C01 — Pigment Mill and Mixing Process

The Pigment Mill and Mixing Process (P36) is a batch process that manufactures small volumes of coatings and manufactures portions of coatings. Some of the coatings made from this process are shipped off-site and some are used within the plant. The Pigment Mill and Mixing Process (P36) consists of a pigment mill itself, three mix tanks, and a Hi-Shear mix station. The three mix tanks have the capacity to store more than 250 gallons of coatings. The pigment mill and the Hi-shear mixer each have a capacity of less than 250 gallons.

The Pigment Mill and Mixing Process (P36) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Miscellaneous Coating Manufacturing in 40 CFR Part 63 Subpart HHHHH (63.7980-63.8105) because it is considered miscellaneous coating manufacturing operations located at a major source for federal hazardous air pollutants; manufacture coatings; process, use, or produce a hazardous air pollutant; and is not part of an affected source subject to another rule in 40 CFR Part 63, per 40 CFR 63.7985(a). A miscellaneous coating manufacturing operation includes process vessels; storage tanks for feedstocks and products; components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems; and wastewater tanks and

transfer racks that are used to manufacture coatings, per 40 CFR 63.7985(b). Miscellaneous coating manufacturing operations also include cleaning operations. A coating is a material such as paint, ink, or adhesive that is intended to be applied to a substrate and consists of a mixture of resins, pigments, solvents, and/or other additives, where the material is produced by a manufacturing operation where materials are blended, mixed, diluted, or otherwise formulated, per 40 CFR 8105. Process vessel means any stationary or portable tank or other vessel with a capacity greater than or equal to 250 gallons and in which mixing, blending, diluting, dissolving, temporary holding, and other processing steps occur in the manufacturing of a coating, per 40 CFR 8105. The three mix tanks are considered process vessels.

The mixing equipment included in the Pigment Mill and Mixing Process (P36) have a capacity greater than 250 gallons per year and are considered process vessels, according to 40 CFR 63.8105. The facility has requested to meet the alternative standard of manufacturing coatings that contain less than 5 percent by weight of hazardous air pollutants, per 40 CFR 63.8005(a)(1)(i) and 40 CFR 63.8055(a).

To demonstrate compliance with the hazardous air pollutant (HAP) content limit, the facility will be required to determine the hazardous air pollutant content according to U.S. EPA Method 311 (Appendix A to 40 CFR Part 63); U.S. EPA Method 24 (Appendix A to 40 CFR Part 60); an alternative test method to determine the mass fraction of HAP if approved by the department in writing; or formulation data from raw material suppliers if it represents each organic hazardous air pollutant that is present at 0.1 percent by mass or more for OSHA-defined carcinogens, as specified in 29 CFR 1910.1200(d)(4) or at 1.0 percent by mass or more for other compounds, per 40 CFR 8055(b)(1)-(4). Method 24 may be used to determine the mass fraction of volatile matter and that value can be substituted for the mass fraction of hazardous air pollutants. For using an alternative test method, follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval. If formulation data and test method results conflict, the test results are considered accurate unless, after consultation, it is demonstrated that the test results are not accurate and that the formulation data are more appropriate. Determining the hazardous air pollutant content in each coating will verify that the hazardous air pollutant content is less than 5 percent by weight. Controlling emissions using the regenerative thermal oxidizer (C01) is not necessary to demonstrate compliance with the 5 percent by weight of hazardous air pollutant limit. Emissions from the Pigment Mill and Mixing Process (P36) are controlled to reduce volatile organic compound and hazardous air pollutant emissions from the facility.

To verify compliance, the facility will be required to keep records of the hazardous air pollutant content in the coatings and the method used to determine the hazardous air pollutant content in the coatings. The facility will also be required to submit semi-annual compliance reports.

National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Flexible Polyurethane Foam Production in 40 CFR Part 63 Subpart III (63.1290-63.1309)

Process P66, Stack S49 — Urethane (MDI) Sponge Coating Process

With the combining of Building 49 and Building 50, the process lines in Building 49 will now be located at a major source for federal hazardous air pollutants. Since the Urethane (MDI) Sponge Coating Process (P66) produces a flexible polyurethane foam, emits a federal hazardous air pollutant, and is located at a major source for federal hazardous air pollutants, the Urethane (MDI) Sponge Coating Process (P66) is subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Flexible Polyurethane Foam Production in 40 CFR Part 63 Subpart III (63.3280-63.3420), per 40 CFR 63.1290(a). Flexible polyurethane foam means a flexible cellular

polymer containing urea and carbamate linkages in the chain backbone produced by reacting a diisocyanate, polyol, and water, per 40 CFR 63.1292. Flexible polyurethane foams are open-celled, permit the passage of air through the foam, and possess the strength and flexibility to allow repeated distortion or compression under stress with essentially complete recovery upon removal of the stress. Diisocyanate means a compound containing two isocyanate groups per molecule, per 40 CFR 63.1292. The most common diisocyanate compounds used in the flexible polyurethane foam industry are toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI). Polyol, for the purpose of this review, means a polyether or polyester polymer with more than one reactive hydroxyl group attached to the molecule, per 40 CFR 63.1292.

The type of flexible polyurethane foam produced by the Urethane (MDI) Sponge Coating Process (P66) is a molded flexible polyurethane foam. Molded flexible polyurethane foam means a flexible polyurethane foam that is produced by shooting the foam mixture into a mold of the desired shape and size, per 40 CFR 63.1292.

The facility is limited to not using a hazardous air pollutant (HAP) or hazardous air pollutant-based material as an equipment cleaner to flush the mixhead or used elsewhere as an equipment cleaner in a molded flexible polyurethane foam process except for diisocyanates, per 40 CFR 63.1300(a). Also, a hazardous air pollutant-based mold release agent shall not be used in a molded flexible polyurethane foam source process, per 40 CFR 63.1300(b). Diisocyanates may be used to flush the mixhead and associated piping during periods of startup or maintenance, provided that the diisocyanate compounds are contained in a closed-loop system and are re-used in production. Hazardous air pollutant-based means to contain 5 percent (by weight) or more of HAP, per 40 CFR 63.1292. This applies to equipment cleaners (and mixhead flushes) and mold release agents. The concentration of HAP may be determined using EPA test method 18, material safety data sheets, or engineering calculations. In addition, a hazardous air pollutant-based mold release agent shall not be used in a molded flexible polyurethane foam source process, per 40 CFR 63.1300(b).

To demonstrate compliance, the facility is required to keep records of product data sheets for each compound other than diisocyanates used to flush the mixhead and associated piping during periods of startup or maintenance, which includes the HAP content, in kilograms of HAP per kilogram solids (pounds of HAP per pound solids). The facility is also required to keep records of the product data sheets for each mold release agent used that includes the HAP content, in kilograms of HAP per gram solids (pounds of HAP per pound solids), of each mold release agent. These records will verify that the HAP content in each compound other than diisocyanates and each mold release agent will not exceed 5 percent by weight.

National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Stationary Reciprocating Internal Combustion Engines (RICE) in 40 CFR Part 63 Subpart ZZZZ (63.6580-63.6675)

Process P271, Stack S271 — 285 Kilowatt Emergency Diesel Generator

Emergency Diesel Generator (P271) is subject to the National Emission Standard for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Stationary Reciprocating Internal Combustion Engines (RICE) in 40 CFR Part 63 Subpart ZZZZ (63.6580-63.6675) because the diesel generator is considered a stationary reciprocating internal combustion engine and is located at a major source for federal hazardous air pollutants, per 40 CFR 63.6585. A stationary reciprocating internal combustion engine is any internal combustion engine which uses reciprocating motion to convert heat

energy into mechanical work and which is not mobile, per 40 CFR 63.6585(a). A stationary reciprocating internal combustion engine differs from mobile reciprocating internal combustion engine in that a stationary reciprocating internal combustion engine is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition. Emergency Diesel Generator (P271) is considered an emergency diesel generator rated at 382 horsepower. The facility will be required to meet the Stationary Reciprocating Internal Combustion Engine MACT requirements on May 3, 2013.

Emergency Diesel Generator (P271) will be subject to work practice limits that include changing the oil and filter every 500 hours of operation or annually, whichever comes first or utilize an oil analysis program, inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and inspect all hoses and belts every 500 hours of operation or annually, whichever comes first and replace as necessary. The oil analysis program is an alternative method to extend the time period of an oil change by conducting an oil analysis according to 40 CFR 63.6625(i). The facility will also be required to operate and maintain Emergency Diesel Generator (P271), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. At the time of this review, no air pollution control equipment was used to control emissions.

To demonstrate compliance, the facility will be required to operate and maintain the Emergency Diesel Generator (P271) and after-treatment control device (if any) according to the manufacturer's emission-related written instructions. As an alternative, the facility may develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The maintenance plan must also include the oil analysis requirements. The facility will also be required to install a non-resettable hour meter if one is not already installed. The non-resettable hour meter will be used to determine the hours of operation for emergency and non-emergency purposes and to verify that the work practice limits are satisfied. The facility will also be required to minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes after which time the non-startup emission limitations apply. This will ensure that the Emergency Diesel Generator (P271) is operated and maintained properly and in a way that minimizes emissions.

According to the Stationary Reciprocating Internal Combustion Engine MACT standard, there is no restriction on the amount of hours that Emergency Diesel Generator (P271) is operated during emergency situations. Also all maintenance checks and readiness testing will be limited to 100 hours per year. The facility may also operate Emergency Diesel Generator (P271) in non-emergency situations for a maximum of 50 hours per year, but those 50 hours are counted towards the 100 hours per year for maintenance checks and readiness testing. This is slightly different than what is required under the Stationary Reciprocating Internal Combustion Engine MACT standard. To be considered an emergency generator under s. NR 400.02(56), Wis. Adm. Code, Emergency Diesel Generator (P271) will be limited to operating 200 hours per year. The 200 hours of operation includes testing, emergency situations, and any other use approved by the department.

To verify compliance with the work practice limits, the facility will be required to keep records of the occurrences and durations of each malfunction; actions taken during periods of a malfunction to minimize

emissions including corrective actions to restore equipment; records indicating that the Emergency Diesel Generator (P271) is operated and maintained according to the manufacturer's emission-related operation and maintenance instructions or records of the maintenance plan indicating that the engine is maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions; any maintenance conducted on Emergency Diesel Generator (P271) and after-treatment control device (if any) indicating that the generator and any control device were operated and maintained according to the maintenance plan; hours of operation during emergency and non-emergency periods indicating how many hours are spent for emergency operation, what classified the operation as emergency, and how many hours are spent for non-emergency operation; the parameters that are analyzed in the oil analysis, the results of the analysis, and the oil changes for the engine if an oil analysis was done; and records of the oil changes and hose and belt inspections, and records of the hours operated between each oil change and hose and belt inspection. These records will verify that that the facility has demonstrated compliance with the work practice limits and is operating and maintaining the Emergency Diesel Generator (P271) properly in a manner consistent with good air pollution control practice for minimizing emissions.

AIR QUALITY REVIEW

Air quality reviews were done for Building 49 and Building 50 at the 3M Prairie du Chien plant. The conclusion of each air quality review is explained below.

Building 49 (FID 612040440)

Construction Permit 99-POY-083: An air quality review was done for construction permit 99-POY-083. The review assessed the air quality impacts of total suspended particulate (24-hour) and PM10 (24-hour and annual). The results indicated that the National Ambient Air Quality Standards (NAAQS) for total suspended particulate and PM10 will be attained and maintained.

Building 50 (FID 612023940)

Operation Permit 612023940-P01: An air quality review was done for operation permit 612023940-P01. The review assessed the air quality impacts of total suspended particulate (24-hour) and PM10 (24-hour and annual). The results indicated that the National Ambient Air Quality Standards (NAAQS) for total suspended particulate and PM10 will be attained and maintained.

Construction Permit 01-POY-017: An air quality review was done for construction permit 01-POY-017. The review assessed the air quality impacts of total suspended particulate (24-hour) and PM10 (24-hour and annual). The results indicated that the National Ambient Air Quality Standards (NAAQS) for total suspended particulate and PM10 will be attained and maintained.

Total Facility (including Building 49 and Building 50)

The majority of the emissions emitted from the facility will continue to be volatile organic compounds and organic hazardous air pollutants. The majority of the emissions resulting from the pre-approved projects and facility changes will also be volatile organic compounds and organic hazardous air pollutants. Also, the prevention of significant deterioration (PSD) baseline for Crawford County has not been set.

Construction Permit 11-SJZ-179 and Operation Permit 612023940-P10: An air quality review was done for the review of construction permit 11-SJZ-179 and operation permit 612023940-P10 because Building 49 and Building 50 will be considered one facility and the emissions will be combined. PM2.5 emissions

were not included in this air quality review because no changes have occurred since particulate matter emissions were modeled for the reviews of construction permits 99-POY-083 (Building 49) and 01-POY-017 (Building 50) that resulted in an increase in particulate matter emissions. If there is an increase in PM10 or PM2.5 emissions as a result of the installation of a pre-approved project/facility change, a new air quality review will be done to determine the impact of the new PM10 and PM2.5 emissions. The facility will be required to submit the results of the air quality review in the Start-up Notification.

The air quality review done for construction permit 11-SJZ-179 and operation permit 612023940-P10 did not include the particulate matter emissions from the Thinsulate Maker (P69) because there is no ambient air quality standard for particulate matter greater than 10 micrometers in size, per s. NR 404.04, Wis. Adm. Code. The Thinsulate Maker (P69) only generates particulate matter greater than 10 micrometers in size.

The air quality review done for construction permit 11-SJZ-179 and operation permit 612023940-P10 and any future air quality reviews of the facility will not need to determine the air quality impacts of nitrogen oxide (1-hour impact) and sulfur dioxide (1-hour impact) because the facility is not a prevention of significant deterioration (PSD) major source for nitrogen oxide and sulfur dioxide emissions. The facility will be considered a synthetic minor PSD source upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10.

The PSD baseline for Crawford County has not been established at the time of this review. If the PSD baseline for Crawford County does get established, the facility will be required to include the PSD increment for emission units that were installed after the PSD baseline was established.

The results of the air quality review done for the review of construction permit 11-SJZ-179 and operation permit 612023940-P10 are included below.

A. INTRODUCTION

This dispersion analysis for a New Source construction permit compares model results to National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The facility has a physical location address of 801 North Marquette Road, City of Prairie du Chien, Crawford County, Wisconsin. PSD baselines HAVE NOT been set for Crawford County.

B. MODELING ANALYSIS

Mark Manninen of 3M supplied and Sonny Zentner verified the emission parameters used in this analysis. Building dimensions were provided by 3M. Building Profile Input Program for PRIME (BPIP-Prime) was used in this analysis to correctly account for the concepts and procedures expressed in the Good Engineering Practice technical support document as well as other related references. Measurements were compared with scaled aerial photographs for accuracy and appropriateness.

Five years (1998-2002) of preprocessed meteorological data was used in this analysis. The surface data was collected in La Crosse, and the upper air meteorological data originated in Minneapolis, MN.

The American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC) steady-state plume model (AERMOD v 11103) was used in this analysis. The model used rural dispersion coefficients with regulatory and non regulatory default options. These

options allow for missing and calm wind correction, buoyancy induced dispersion, building downwash, recirculation cavity effects and internal computing of Ozone limiting values.

The receptors used in this analysis consisted of a grid conforming to the physical layout of the building and grounds about the facility (839 receptors) with 25-meter resolution near the facility and extending some 500 meters from a point identified as (0,0) of the Cartesian axis on which this facility was placed via supplied plot plans. Points within known fences or on top of buildings were not considered. Terrain is a factor in the area, so receptor elevations were considered via application of the AERMOD terrain processor (AERMAP) with USGS National Elevation Dataset (NED) tiles.

All sources vent vertically and without obstruction except as noted elsewhere within this document.

C. MODEL RESULTS

NAAQS Analysis	PM_{10} 24-hr
Facility Impact	76.8
Background	29.4
Total	106.2
NAAQS	150.0
% NAAQS	71

NAAQS Analysis	SO_2 3-hr	SO_2 24-hr	SO_2 Annual
Facility Impact	494.9	199.5	16.4
Background	11.8	11.2	5.4
Total	506.7	210.7	21.8
NAAQS	1300	365	80
% NAAQS	39	58	27

NAAQS Analysis	CO 1-hr	CO 8-hr	NOx Annual
Facility Impact	236.8	102.3	21.6
Background	950.5	904.7	8.0
Total	1186.5	1006.7	29.6
NAAQS	40000	10000	100
% NAAQS	3	10	30

D. CONCLUSION

The results of the modeling analysis demonstrate that the applicable air quality standards will be met assuming the emissions rates, stack parameters and all other restrictions listed in this document.

Stack Parameters

ID	Description	LOCATION			EMISSION RATES			
		UTM NAD83 Zone 15			Grams per Second			
		X	Y	Z	PM10	NO2	CO	SO2

ID	Description	LOCATION			EMISSION RATES			
		UTM NAD83 Zone 15			Grams per Second			
		X	Y	Z	PM10	NO2	CO	SO2
S09	P07	651389	4769818	194.53	4.2E-03	0.06	0.046745	3.34E-04
S11	B21	651410	4769452	194.08	0.068	0.23	0.133356	0.81
S13	B22	651411	4769457	194.08	0.091	0.3	0.17675	1.07
S14	P25	651402	4769274	193.8	0.0735	0.96	0.808906	0.01
S15	B23	651415	4769458	194.06	0.121	0.4	0.233903	0.0042
S16A	P32	651510	4769504	193.63	0.126	0	0	0
S34	P44	651539	4769458	193.53	0.019	0	0	0
S36	P45	651367	4769384	194.04	0.189	0	0	0
S40	P48	651472.2	4769510	193.78	0.189	0	0	0
S42	P50	651575	4769518	193.34	0.126	0	0	0
S44	P64	651466	4769322	194.12	0.050	0	0	0
S46	P65-26	651485	4769502	193.75	0.126	0	0	0
S45A	P65-26	651515	4769529	193.57	4.7E-03	0.06	0.051659	3.71E-04
S45B	P65-26	651515	4769529	193.57	4.7E-03	0.06	0.051659	3.71E-04
S45C	P52	651507	4769509	193.63	4.7E-03	0.06	0.051659	3.71E-04
SV47	P66	651368.6	4769781	194.03	1.7E-01	0	0	0

Model release type = default.

Stack Parameters

ID	PHYSICALS			
	Height	Temp	Vel	Dia
	(m)	(K)	(m/s)	(m)
S09	12.4968	366.83	6.13156	0.6858
S11	13.1064	505.37	4.751832	0.701
S13	12.8016	505.37	4.751832	0.701
S14	21.0312	352.59	10.29665	2.5298
S15	13.1064	505.37	5.030724	0.9144
S16A	18.8976	310.93	42.53382	0.762
S28	13.4112	299.82	15.72108	0.3658
S34	11.5824	299.82	0.001	0.2438
S36	7.0104	299.82	22.64	0.3048
S40	12.8016	299.82	19.40408	0.3048
S42	12.4968	294.26	1.437132	0.9144
S44	3.05	299.82	10.10412	1.22
S46	17.3736	297.04	13.76426	0.762
S45A	5.081	394.61	4.644136	0.4877
S45B	5.081	394.61	4.644136	0.4877
S45C	2.4384	394.61	4.644136	0.4877
SV47	3.6576	352.59	7.421487	0.509

FACILITY EMISSIONS

Actual emissions are the total emissions generated by the emission sources identified below over the specified time period taking into account any reductions made by a control device or technique. Maximum theoretical emissions are the quantity of air contaminants that theoretically could be emitted by the emissions sources identified below, without considering emission control devices, based on the design capacity of the source. Potential to emit is the maximum capacity of the emission sources identified below to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air contaminant shall be treated as part of its design if the limitation is Federally enforceable.

The emissions units listed below are either new or changed as a result of this review:

A. Stack Emissions

1. Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2

Criteria Pollutant Emissions from Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.04	4.54	1.04	4.54
Nitrogen Oxide	100	1.4-1	1.24	5.41	1.24	5.41
Particulate Matter	7.60	1.4-2	9.39E-02	4.11E-01	9.39E-02	4.11E-01
PM10	7.60	1.4-2	9.39E-02	4.11E-01	9.39E-02	4.11E-01
Sulfur Dioxide	6.00E-01	1.4-2	7.41E-03	3.25E-02	7.41E-03	3.25E-02
Volatile Organic Compound	5.50	1.4-2	6.79E-02	2.98E-01	6.79E-02	2.98E-01

B21, S11: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^6 SCF		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	2.00E-04	1.4-4	2.47E-06	2.16E-02	2.47E-06	2.16E-02	1.08E-05	Yes	Yes
Barium	7440-39-3	4.40E-03	1.4-4	5.44E-05	4.76E-01	5.44E-05	4.76E-01	2.38E-04	No	Yes
Benz(a)anthracene	56-55-3	1.80E-06	1.4-3	2.22E-08	1.95E-04	2.22E-08	1.95E-04	9.74E-08	No	Yes
Benzene	71-43-2	2.10E-03	1.4-3	2.59E-05	2.27E-01	2.59E-05	2.27E-01	1.14E-04	Yes	Yes
Benzo(a)pyrene	50-32-8	1.20E-03	1.4-3	1.48E-05	1.30E-01	1.48E-05	1.30E-01	6.49E-05	No	Yes
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.4-3	2.22E-08	1.95E-04	2.22E-08	1.95E-04	9.74E-08	No	Yes
Beryllium	7440-41-7	1.20E-05	1.4-4	1.48E-07	1.30E-03	1.48E-07	1.30E-03	6.49E-07	Yes	Yes
Cadmium	7440-43-9	1.10E-03	1.4-4	1.36E-05	1.19E-01	1.36E-05	1.19E-01	5.95E-05	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	1.40E-03	1.4-4	1.73E-05	1.51E-01	1.73E-05	1.51E-01	7.57E-05	Yes	Yes
Cobalt	7440-48-4	8.40E-05	1.4-4	1.04E-06	9.09E-03	1.04E-06	9.09E-03	4.54E-06	No	Yes
Copper	7440-50-8	8.50E-04	1.4-4	1.05E-05	9.20E-02	1.05E-05	9.20E-02	4.60E-05	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.4-3	1.48E-08	1.30E-04	1.48E-08	1.30E-04	6.49E-08	No	Yes
Formaldehyde	50-00-0	7.50E-02	1.4-3	9.26E-04	8.12	9.26E-04	8.12	4.06E-03	Yes	Yes
Hexane	110-54-3	1.8	1.4-3	2.22E-02	1.95E+02	2.22E-02	1.95E+02	9.74E-02	Yes	Yes

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^6 SCF		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.4-3	2.22E-08	1.95E-04	2.22E-08	1.95E-04	9.74E-08	No	Yes
Lead	7439-92-1	5.00E-04	1.4-2	6.18E-06	5.41E-02	6.18E-06	5.41E-02	2.71E-05	Yes	No
Manganese	7439-96-5	3.80E-04	1.4-4	4.69E-06	4.11E-02	4.69E-06	4.11E-02	2.06E-05	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	2.60E-04	1.4-4	3.21E-06	2.81E-02	3.21E-06	2.81E-02	1.41E-05	Yes	Yes
Molybdenum	7439-98-7	1.10E-03	1.4-4	1.36E-05	1.19E-01	1.36E-05	1.19E-01	5.95E-05	No	Yes
Naphthalene	91-20-3	6.10E-04	1.4-3	7.54E-06	6.60E-02	7.54E-06	6.60E-02	3.30E-05	Yes	Yes
Nickel	7440-02-0	2.10E-03	1.4-4	2.59E-05	2.27E-01	2.59E-05	2.27E-01	1.14E-04	Yes	Yes
Selenium	7782-49-2	2.40E-05	1.4-4	2.96E-07	2.60E-03	2.96E-07	2.60E-03	1.30E-06	Yes	Yes
Toluene	108-88-3	3.40E-03	1.4-3	4.20E-05	3.68E-01	4.20E-05	3.68E-01	1.84E-04	Yes	Yes

B21, S11: Criteria Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential To Emit	
	lb/1,000 gal		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	5.00	1.3-1	4.50E-01	1.97	4.50E-01	1.97
Nitrogen Oxide	20.0	1.3-1	1.80	7.88	1.80	7.88
Particulate Matter	2.00	1.3-1	1.80E-01	7.88E-01	1.80E-01	7.88E-01
PM10	2.00	1.3-1	1.80E-01	7.88E-01	1.80E-01	7.88E-01
Sulfur Dioxide	142S	1.3-1	6.39	28.0	6.39	28.0
Volatile Organic Compound	2.52E-01	1.3-3	2.27E-02	9.93E-02	2.27E-02	9.93E-02

S-sulfur content, S = 0.5%

B21, S11: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/1,000 gal		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Benzene	71-43-2	2.1E-04	1.3-9	1.93E-05	1.69E-01	1.93E-05	1.69E-01	8.44E-05	Yes	Yes
Benz(a)anthracene	56-55-3	4.01E-06	1.3-9	3.61E-07	3.16E-03	3.61E-07	3.16E-03	1.58E-06	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.67E-06	1.3-9	1.50E-07	1.32E-03	1.50E-07	1.32E-03	6.58E-07	No	Yes
Ethylbenzene	100-41-4	6.36E-05	1.3-9	5.72E-06	5.01E-02	5.72E-06	5.01E-02	2.51E-05	Yes	Yes

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/1,000 gal		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Formaldehyde	50-00-0	3.30E-02	1.3-9	2.97E-03	26.0	2.97E-03	26.0	1.30E-02	Yes	Yes
Naphthalene	91-20-3	1.13E-03	1.3-9	1.02E-04	8.91E-01	1.02E-04	8.91E-01	4.45E-04	Yes	Yes
Toluene	108-88-3	6.20E-03	1.3-9	5.58E-04	4.89	5.58E-04	4.89	2.44E-03	Yes	Yes
1,1,1-Trichloroethane	71-55-6	2.36E-04	1.3-9	2.12E-05	1.86E-01	2.12E-05	1.86E-01	9.30E-05	Yes	No
o-Xylene	95-47-6	1.09E-04	1.3-9	9.81E-06	8.59E-02	9.81E-06	8.59E-02	4.30E-05	Yes	No

B21, S11: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^{12} Btu		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	4.00	1.3-10	5.04E-05	4.42E-01	5.04E-05	4.42E-01	2.21E-04	Yes	Yes
Beryllium	7440-41-7	3.00	1.3-10	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Cadmium	7440-43-9	3.00	1.3-10	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	3.00	1.3-10	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Copper	7440-50-8	6.00	1.3-10	7.56E-05	6.62E-01	7.56E-05	6.62E-01	3.31E-04	No	Yes
Lead	7439-92-1	9.00	1.3-10	1.13E-04	9.93E-01	1.13E-04	9.93E-01	4.97E-04	Yes	No
Manganese	7439-96-5	6.00	1.3-10	7.56E-05	6.62E-01	7.56E-05	6.62E-01	3.31E-04	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	3.00	1.3-10	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Nickel	7440-02-0	3.00	1.3-10	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Selenium	7782-49-2	15.0	1.3-10	1.89E-04	1.66	1.89E-04	1.66	8.28E-04	Yes	Yes

B21, S11: PM2.5 Emissions

Pollutant	Maximum Theoretical Emissions		Potential To Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	0.540	2.37	0.540	2.37

B21, S11: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	1,473	6,451	1,473	6,451	1	1,473	6,451
Methane (CH4)	1.00E-03	2.20E-03	2.78E-02	1.22E-01	2.78E-02	1.22E-01	21	5.83E-01	2.56
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	2.78E-03	1.22E-02	2.78E-03	1.22E-02	310	8.61E-01	3.77
Total			**1,473**	**6,451**	**1,473**	**6,451**		**1,474**	**6,457**

B21, S11: Greenhouse Gas Emissions from #2 Fuel Oil Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	73.96	163.1	2,054	8,999	2,054	8,999	1	2,054	8,999
Methane (CH4)	3.00E-03	6.61E-03	8.33E-02	3.65E-01	8.33E-02	3.65E-01	21	1.75	7.67
Nitrous Oxide (N2O)	6.00E-04	1.32E-03	1.67E-02	7.30E-02	1.67E-02	7.30E-02	310	5.17	22.6
Total			**2,055**	**8,999**	**2,055**	**8,999**		**2,061**	**9,029**

2. **Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3**

B22, S13: Criteria Pollutant Emissions from Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.38	6.02	1.38	6.02
Nitrogen Oxide	100	1.4-1	1.64	7.17	1.64	7.17
Particulate Matter	7.60	1.4-2	1.24E-01	5.45E-01	1.24E-01	5.45E-01
PM10	7.60	1.4-2	1.24E-01	5.45E-01	1.24E-01	5.45E-01
Sulfur Dioxide	6.00E-01	1.4-2	9.82E-03	4.30E-02	9.82E-03	4.30E-02
Volatile Organic Compound	5.50	1.4-2	9.00E-02	3.94E-01	9.00E-02	3.94E-01

B22, S13: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^6 SCF		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	2.00E-04	1.4-4	3.27E-06	2.87E-02	3.27E-06	2.87E-02	1.43E-05	Yes	Yes
Barium	7440-39-3	4.40E-03	1.4-4	7.20E-05	6.31E-01	7.20E-05	6.31E-01	3.16E-04	No	Yes
Benz(a)anthracene	56-55-3	1.80E-06	1.4-3	2.95E-08	2.58E-04	2.95E-08	2.58E-04	1.29E-07	No	Yes
Benzene	71-43-2	2.10E-03	1.4-3	3.44E-05	3.01E-01	3.44E-05	3.01E-01	1.51E-04	Yes	Yes
Benzo(a)pyrene	50-32-8	1.20E-03	1.4-3	1.96E-05	1.72E-01	1.96E-05	1.72E-01	8.61E-05	No	Yes
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.4-3	2.95E-08	2.58E-04	2.95E-08	2.58E-04	1.29E-07	No	Yes
Beryllium	7440-41-7	1.20E-05	1.4-4	1.96E-07	1.72E-03	1.96E-07	1.72E-03	8.61E-07	Yes	Yes
Cadmium	7440-43-9	1.10E-03	1.4-4	1.80E-05	1.58E-01	1.80E-05	1.58E-01	7.89E-05	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	1.40E-03	1.4-4	2.29E-05	2.01E-01	2.29E-05	2.01E-01	1.00E-04	Yes	Yes
Cobalt	7440-48-4	8.40E-05	1.4-4	1.38E-06	1.20E-02	1.38E-06	1.20E-02	6.02E-06	No	Yes
Copper	7440-50-8	8.50E-04	1.4-4	1.39E-05	1.22E-01	1.39E-05	1.22E-01	6.10E-05	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.4-3	1.96E-08	1.72E-04	1.96E-08	1.72E-04	8.61E-08	No	Yes
Formaldehyde	50-00-0	7.50E-02	1.4-3	1.23E-03	1.08E+01	1.23E-03	1.08E+01	5.38E-03	Yes	Yes
Hexane	110-54-3	1.8	1.4-3	2.95E-02	2.58E+02	2.95E-02	2.58E+02	1.29E-01	Yes	Yes
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.4-3	2.95E-08	2.58E-04	2.95E-08	2.58E-04	1.29E-07	No	Yes
Lead	7439-92-1	5.00E-04	1.4-2	8.19E-06	7.17E-02	8.19E-06	7.17E-02	3.59E-05	Yes	No
Manganese	7439-96-5	3.80E-04	1.4-4	6.22E-06	5.45E-02	6.22E-06	5.45E-02	2.73E-05	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	2.60E-04	1.4-4	4.26E-06	3.73E-02	4.26E-06	3.73E-02	1.86E-05	Yes	Yes
Molybdenum	7439-98-7	1.10E-03	1.4-4	1.80E-05	1.58E-01	1.80E-05	1.58E-01	7.89E-05	No	Yes
Naphthalene	91-20-3	6.10E-04	1.4-3	9.99E-06	8.75E-02	9.99E-06	8.75E-02	4.37E-05	Yes	Yes
Nickel	7440-02-0	2.10E-03	1.4-4	3.44E-05	3.01E-01	3.44E-05	3.01E-01	1.51E-04	Yes	Yes
Selenium	7782-49-2	2.40E-05	1.4-4	3.93E-07	3.44E-03	3.93E-07	3.44E-03	1.72E-06	Yes	Yes
Toluene	108-88-3	3.40E-03	1.4-3	5.57E-05	4.88E-01	5.57E-05	4.88E-01	2.44E-04	Yes	Yes

B22, S13: Criteria Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential To Emit	
	lb/1,000 gal		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	5.00	1.3-1	5.96E-01	2.61	5.96E-01	2.61
Nitrogen Oxide	20.0	1.3-1	2.39	10.4	2.39	10.4

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential To Emit	
	lb/1,000 gal		lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	2.00	1.3-1	2.39E-01	1.04	2.39E-01	1.04
PM10	2.00	1.3-1	2.39E-01	1.04	2.39E-01	1.04
Sulfur Dioxide	142S	1.3-1	8.47	37.1	8.47	37.1
Volatile Organic Compound	2.52E-01	1.3-3	3.01E-02	1.32E-01	3.01E-02	1.32E-01

S-sulfur content, S = 0.5%

B22, S13: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/1,000 gal		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Benzene	71-43-2	2.1E-04	1.3-9	2.55E-05	2.24E-01	2.55E-05	2.24E-01	1.12E-04	Yes	Yes
Benz(a)anthracene	56-55-3	4.01E-06	1.3-9	4.78E-07	4.19E-03	4.78E-07	4.19E-03	2.10E-06	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.67E-06	1.3-9	1.99E-07	1.75E-03	1.99E-07	1.75E-03	8.73E-07	No	Yes
Ethylbenzene	100-41-4	6.36E-05	1.3-9	7.59E-06	6.65E-02	7.59E-06	6.65E-02	3.32E-05	Yes	Yes
Formaldehyde	50-00-0	3.30E-02	1.3-9	3.94E-03	34.5	3.94E-03	34.5	1.72E-02	Yes	Yes
Naphthalene	91-20-3	1.13E-03	1.3-9	1.35E-04	1.18	1.35E-04	1.18	5.90E-04	Yes	Yes
Toluene	108-88-3	6.20E-03	1.3-9	7.40E-04	6.48	7.40E-04	6.48	3.24E-03	Yes	Yes
1,1,1-Trichloroethane	71-55-6	2.36E-04	1.3-9	2.82E-05	2.47E-01	2.82E-05	2.47E-01	1.23E-04	Yes	No
o-Xylene	95-47-6	1.09E-04	1.3-9	1.30E-05	1.14E-01	1.30E-05	1.14E-01	5.69E-05	Yes	No

B22, S13: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^{12} Btu		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	4.00	1.3-10	6.68E-05	5.85E-01	6.68E-05	5.85E-01	2.93E-04	Yes	Yes
Beryllium	7440-41-7	3.00	1.3-10	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Cadmium	7440-43-9	3.00	1.3-10	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	3.00	1.3-10	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Copper	7440-50-8	6.00	1.3-10	1.00E-04	8.78E-01	1.00E-04	8.78E-01	4.39E-04	No	Yes
Lead	7439-92-1	9.00	1.3-10	1.50E-04	1.32	1.50E-04	1.32	6.58E-04	Yes	No

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^{12} Btu		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Manganese	7439-96-5	6.00	1.3-10	1.00E-04	8.78E-01	1.00E-04	8.78E-01	4.39E-04	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	3.00	1.3-10	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Nickel	7440-02-0	3.00	1.3-10	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Selenium	7782-49-2	15.0	1.3-10	2.51E-04	2.19	2.51E-04	2.19	1.10E-03	Yes	Yes

B22, S13: PM2.5 Emissions

Pollutant	Maximum Theoretical Emissions		Potential To Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	0.720	3.15	0.720	3.15

B22, S13: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	1,952	8,550	1,952	8,550	1	1,952	8,550
Methane (CH4)	1.00E-03	2.20E-03	3.68E-02	1.61E-01	3.68E-02	1.61E-01	21	7.73E-01	3.39
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	3.68E-03	1.61E-02	3.68E-03	1.61E-02	310	1.14	5.00
Total			**1,952**	**8,550**	**1,952**	**8,550**		**1,954**	**8,558**

B22, S13: Greenhouse Gas Emissions from #2 Fuel Oil Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	73.96	163.1	2,723	11,927	2,723	11,927	1	2,723	11,927
Methane (CH4)	3.00E-03	6.61E-03	1.10E-01	4.84E-01	1.10E-01	4.84E-01	21	2.32	10.2
Nitrous Oxide (N2O)	6.00E-04	1.32E-03	2.21E-02	9.68E-02	2.21E-02	9.68E-02	310	6.85	30.0

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Total			**2,723**	**11,927**	**2,723**	**11,927**		**2,732**	**11,967**

3. **Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4**

B23, S15: Criteria Pollutant Emissions from Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.82	7.97	1.82	7.97
Nitrogen Oxide	100	1.4-1	2.17	9.49	2.17	9.49
Particulate Matter	7.60	1.4-2	1.65E-01	7.21E-01	1.65E-01	7.21E-01
PM10	7.60	1.4-2	1.65E-01	7.21E-01	1.65E-01	7.21E-01
Sulfur Dioxide	6.00E-01	1.4-2	1.30E-02	5.69E-02	1.30E-02	5.69E-02
Volatile Organic Compound	5.50	1.4-2	1.19E-01	5.22E-01	1.19E-01	5.22E-01

B23, S15: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^6 SCF		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	2.00E-04	1.4-4	4.33E-06	3.80E-02	4.33E-06	3.80E-02	1.90E-05	Yes	Yes
Barium	7440-39-3	4.40E-03	1.4-4	9.53E-05	8.35E-01	9.53E-05	8.35E-01	4.18E-04	No	Yes
Benz(a)anthracene	56-55-3	1.80E-06	1.4-3	3.90E-08	3.42E-04	3.90E-08	3.42E-04	1.71E-07	No	Yes
Benzene	71-43-2	2.10E-03	1.4-3	4.55E-05	3.99E-01	4.55E-05	3.99E-01	1.99E-04	Yes	Yes
Benzo(a)pyrene	50-32-8	1.20E-03	1.4-3	2.60E-05	2.28E-01	2.60E-05	2.28E-01	1.14E-04	No	Yes
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.4-3	3.90E-08	3.42E-04	3.90E-08	3.42E-04	1.71E-07	No	Yes
Beryllium	7440-41-7	1.20E-05	1.4-4	2.60E-07	2.28E-03	2.60E-07	2.28E-03	1.14E-06	Yes	Yes
Cadmium	7440-43-9	1.10E-03	1.4-4	2.38E-05	2.09E-01	2.38E-05	2.09E-01	1.04E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	1.40E-03	1.4-4	3.03E-05	2.66E-01	3.03E-05	2.66E-01	1.33E-04	Yes	Yes

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^6 SCF		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Cobalt	7440-48-4	8.40E-05	1.4-4	1.82E-06	1.59E-02	1.82E-06	1.59E-02	7.97E-06	No	Yes
Copper	7440-50-8	8.50E-04	1.4-4	1.84E-05	1.61E-01	1.84E-05	1.61E-01	8.07E-05	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.4-3	2.60E-08	2.28E-04	2.60E-08	2.28E-04	1.14E-07	No	Yes
Formaldehyde	50-00-0	7.50E-02	1.4-3	1.63E-03	1.42E+01	1.63E-03	1.42E+01	7.12E-03	Yes	Yes
Hexane	110-54-3	1.8	1.4-3	3.90E-02	3.42E+02	3.90E-02	3.42E+02	1.71E-01	Yes	Yes
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.4-3	3.90E-08	3.42E-04	3.90E-08	3.42E-04	1.71E-07	No	Yes
Lead	7439-92-1	5.00E-04	1.4-2	1.08E-05	9.49E-02	1.08E-05	9.49E-02	4.75E-05	Yes	No
Manganese	7439-96-5	3.80E-04	1.4-4	8.23E-06	7.21E-02	8.23E-06	7.21E-02	3.61E-05	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	2.60E-04	1.4-4	5.63E-06	4.93E-02	5.63E-06	4.93E-02	2.47E-05	Yes	Yes
Molybdenum	7439-98-7	1.10E-03	1.4-4	2.38E-05	2.09E-01	2.38E-05	2.09E-01	1.04E-04	No	Yes
Naphthalene	91-20-3	6.10E-04	1.4-3	1.32E-05	1.16E-01	1.32E-05	1.16E-01	5.79E-05	Yes	Yes
Nickel	7440-02-0	2.10E-03	1.4-4	4.55E-05	3.99E-01	4.55E-05	3.99E-01	1.99E-04	Yes	Yes
Selenium	7782-49-2	2.40E-05	1.4-4	5.20E-07	4.56E-03	5.20E-07	4.56E-03	2.28E-06	Yes	Yes
Toluene	108-88-3	3.40E-03	1.4-3	7.37E-05	6.45E-01	7.37E-05	6.45E-01	3.23E-04	Yes	Yes

B23, S15: Criteria Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential To Emit	
	lb/1,000 gal		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	5.00	1.3-1	7.89E-01	3.46	7.89E-01	3.46
Nitrogen Oxide	20.0	1.3-1	3.16	13.8	3.16	13.8
Particulate Matter	2.00	1.3-1	3.16E-01	1.38	3.16E-01	1.38
PM10	2.00	1.3-1	3.16E-01	1.38	3.16E-01	1.38
Sulfur Dioxide	142S	1.3-1	3.36E-02	1.47E-01	3.36E-02	1.47E-01
Volatile Organic Compound	2.52E-01	1.3-3	3.98E-02	1.74E-01	3.98E-02	1.74E-01

B23, S15: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/1,000 gal		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/1,000 gal		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Benzene	71-43-2	2.1E-04	1.3-9	3.38E-05	2.96E-01	3.38E-05	2.96E-01	1.48E-04	Yes	Yes
Benz(a)anthracene	56-55-3	4.01E-06	1.3-9	6.33E-07	5.55E-03	6.33E-07	5.55E-03	2.77E-06	No	Yes
Dibenzo(a,h)anthracene	53-70-3	1.67E-06	1.3-9	2.64E-07	2.31E-03	2.64E-07	2.31E-03	1.15E-06	No	Yes
Ethylbenzene	100-41-4	6.36E-05	1.3-9	1.00E-05	8.79E-02	1.00E-05	8.79E-02	4.40E-05	Yes	Yes
Formaldehyde	50-00-0	3.30E-02	1.3-9	5.21E-03	45.6	5.21E-03	45.6	2.28E-02	Yes	Yes
Naphthalene	91-20-3	1.13E-03	1.3-9	1.78E-04	1.56	1.78E-04	1.56	7.81E-04	Yes	Yes
Toluene	108-88-3	6.20E-03	1.3-9	9.79E-04	8.57	9.79E-04	8.57	4.29E-03	Yes	Yes
1,1,1-Trichloroethane	71-55-6	2.36E-04	1.3-9	3.73E-05	3.26E-01	3.73E-05	3.26E-01	1.63E-04	Yes	No
o-Xylene	95-47-6	1.09E-04	1.3-9	1.72E-05	1.51E-01	1.72E-05	1.51E-01	7.54E-05	Yes	No

B23, S15: Hazardous Air Pollutant Emissions from #2 Fuel Oil Combustion

Pollutant	CAS	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/10^{12} Btu		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Arsenic	7440-38-2	4.00	1.3-10	8.84E-05	7.74E-01	8.84E-05	7.74E-01	3.87E-04	Yes	Yes
Beryllium	7440-41-7	3.00	1.3-10	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Cadmium	7440-43-9	3.00	1.3-10	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	3.00	1.3-10	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Copper	7440-50-8	6.00	1.3-10	1.33E-04	1.16	1.33E-04	1.16	5.81E-04	No	Yes
Lead	7439-92-1	9.00	1.3-10	1.99E-04	1.74	1.99E-04	1.74	8.71E-04	Yes	No
Manganese	7439-96-5	6.00	1.3-10	1.33E-04	1.16	1.33E-04	1.16	5.81E-04	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	3.00	1.3-10	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Nickel	7440-02-0	3.00	1.3-10	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Selenium	7782-49-2	15.0	1.3-10	3.32E-04	2.90	3.32E-04	2.90	1.45E-03	Yes	Yes

B23, S15: PM2.5 Emissions

Pollutant	Maximum Theoretical Emissions	Potential To Emit

	lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	0.960	4.20	0.960	4.20

B23, S15: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	2,583	11,315	2,583	11,315	1	2,583	11,315
Methane (CH4)	1.00E-03	2.20E-03	4.87E-02	2.13E-01	4.87E-02	2.13E-01	21	1.02	4.48
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	4.87E-03	2.13E-02	4.87E-03	2.13E-02	310	1.51	6.62
Total			**2,583**	**11,315**	**2,583**	**11,315**		**2,586**	**11,326**

B23, S15: Greenhouse Gas Emissions from #2 Fuel Oil Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	73.96	163.1	3,603	15,783	3,603	15,783	1	3,603	15,783
Methane (CH4)	3.00E-03	6.61E-03	1.46E-01	6.40E-01	1.46E-01	6.40E-01	21	3.07	13.4
Nitrous Oxide (N2O)	6.00E-04	1.32E-03	2.92E-02	1.28E-01	2.92E-02	1.28E-01	310	9.06	39.7
Total			**3,604**	**15,784**	**3,604**	**15,784**		**3,616**	**15,836**

4. **Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process**

P07, S06, S07, S09: Criteria Pollutant Emissions from Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	3.78E-01	1.66	3.78E-01	1.66
Nitrogen Oxide	100	1.4-1	4.50E-01	1.97	4.50E-01	1.97
Particulate Matter	7.60	1.4-2	3.42E-02	1.50E-01	3.42E-02	1.50E-01

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
PM10	7.60	1.4-2	3.42E-02	1.50E-01	3.42E-02	1.50E-01
Sulfur Dioxide	6.00E-01	1.4-2	2.70E-03	1.18E-02	2.70E-03	1.18E-02
Volatile Organic Compound	5.50	1.4-2	2.48E-02	1.08E-01	2.48E-02	1.08E-01

P07, S06, S07, S09: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P07, S06, S07, S09: Total Criteria Pollutant Emissions

Pollutant	Stack	Maximum Theoretical Emissions		Potential to Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	S06	2.56E-01	1.12	2.56E-01	1.12
Particulate Matter	S07	2.56E-01	1.12	2.56E-01	1.12
Total Particulate Matter		**5.46E-01**	**2.39**	**5.46E-01**	**2.39**
PM10	S06	2.56E-01	1.12	2.56E-01	1.12
PM10	S07	2.56E-01	1.12	2.56E-01	1.12
Total PM10		**5.46E-01**	**2.39**	**5.46E-01**	**2.39**
PM2.5	Total	3.35E-02	1.47E-01	3.35E-02	1.47E-01
Volatile Organic Compound	S09	7.30	32.0	1.93E-01	8.45E-01
Total Volatile Organic Compound		**7.32**	**32.1**	**2.18E-01**	**9.54E-01**

P07, S06, S07, S09: Hazardous Air Pollutant Emissions

Pollutant	CAS	Stack	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Ammonia	7664-41-7	S09	8.10E-02	710	8.10E-02	710	3.55E-01	No	Yes
Formaldehyde	50-00-0	S09	7.80E-01	6,833	1.50E-01	1,314	6.57E-01	Yes	Yes
Methanol	67-56-1	S09	9.00E-03	78.8	9.00E-03	78.8	3.94E-02	Yes	No
Phenol	108-95-2	S09	5.50E-02	482	5.50E-02	482	2.41E-01	Yes	Yes

P07, S06, S07, S09: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	526	2,304	526	2,304	1	526	2,304
Methane (CH4)	1.00E-03	2.20E-03	9.92E-03	4.35E-02	9.92E-03	4.35E-02	21	2.08E-01	9.13E-01
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	9.92E-04	4.35E-03	9.92E-04	4.35E-03	310	3.08E-01	1.35
Total			**526**	**2,304**	**526**	**2,304**		**527**	**2,306**

5. **Process P30, Stack S14, Control Device C01 — 22 Maker**

P30, S14: Criteria Pollutant Emissions from Natural Gas Curing Oven

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.68E-01	7.36E-01	1.68E-01	7.36E-01
Nitrogen Oxide	100	1.4-1	2.00E-01	8.76E-01	2.00E-01	8.76E-01
Particulate Matter	7.60	1.4-2	1.52E-02	6.66E-02	1.52E-02	6.66E-02
PM10	7.60	1.4-2	1.52E-02	6.66E-02	1.52E-02	6.66E-02
Sulfur Dioxide	6.00E-01	1.4-2	1.20E-03	5.26E-03	1.20E-03	5.26E-03
Volatile Organic Compound	5.50	1.4-2	1.10E-02	4.82E-02	1.10E-02	4.82E-02

P30, S14: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P30, S14: Volatile Organic Compound Emissions from Coating Operations

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	535	2,343	80.2	249

P30, S14: Total Volatile Organic Compound Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	535	2,343	80.2	249
Volatile Organic Compound	1.10E-02	4.82E-02	1.10E-02	4.82E-02
Total Volatile Organic Compound	**535**	**2,343**	**80.3**	**249**

P30, S14: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Ethylbenzene	100-41-4	160	1,398,008	23.9	209,600	105	Yes	Yes
Formaldehyde	50-00-0	3.27	28,616	4.90E-01	4,292	2.15	Yes	Yes
Glycol Ethers	Total	51.3	449,388	7.69	67,400	33.7	Yes	No
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	87.0	762,120	1.49E-03	13.1	6.53E-03	Yes	Yes
Methyl isobutyl ketone (MIBK; Hexone)	108-10-1	69.7	610,572	10.5	91,600	45.8	Yes	Yes
Toluene	108-88-3	8.40	73,575	1.26	11,022	5.51	Yes	Yes
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	1.06E-03	9.29	1.58E-04	1.39	6.94E-04	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	672	5,885,844	22.5	197,080	98.5	Yes	Yes

P30, S14: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor	Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)	Potential to Emit (Greenhouse Gas Mass Emissions)	Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)

	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	234	1,024	234	1,024	1	234	1,024
Methane (CH4)	1.00E-03	2.20E-03	4.41E-03	1.93E-02	4.41E-03	1.93E-02	21	9.26E-02	4.06E-01
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	4.41E-04	1.93E-03	4.41E-04	1.93E-03	310	1.37E-01	5.99E-01
Total			**234**	**1,024**	**234**	**1,024**		**234**	**1,025**

P30, S14: Greenhouse Gas Emissions from #2 Fuel Oil Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	73.96	163.1	326	1,428	326	1,428	1	326	1,428
Methane (CH4)	3.00E-03	6.61E-03	1.32E-02	5.79E-02	1.32E-02	5.79E-02	21	2.78E-01	1.22
Nitrous Oxide (N2O)	6.00E-04	1.32E-03	2.65E-03	1.16E-02	2.65E-03	1.16E-02	310	8.20E-01	3.59
Total			**326**	**1,428**	**326**	**1,428**		**327**	**1,433**

6. **Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker**

P31, S14, S200, S210, S220, S230: Criteria Pollutant Emissions from Coatings Containing No More Than 0.5% by Weight-Uncontrolled Mode

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	1,420	6,220	7.10	6.39

P31, S14, S200, S210, S220, S230: Criteria Pollutant Emissions from Coatings Containing More Than 0.5% by Weight-Controlled Mode

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	1,420	6,220	142	249

P31, S14, S200, S210, S220, S230: Criteria Pollutant Emissions from Natural Gas Curing Oven

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.51	6.62	1.51	6.62
Nitrogen Oxide	100	1.4-1	1.80	7.88	1.80	7.88
Particulate Matter	7.60	1.4-2	1.37E-01	5.99E-01	1.37E-01	5.99E-01
PM10	7.60	1.4-2	1.37E-01	5.99E-01	1.37E-01	5.99E-01
Sulfur Dioxide	6.00E-01	1.4-2	1.08E-02	4.73E-02	1.08E-02	4.73E-02
Volatile Organic Compound	5.50	1.4-2	9.90E-02	4.34E-01	9.90E-02	4.34E-01

P31, S14, S200, S210, S220, S230: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P31, S14, S200, S210, S220, S230: Total Volatile Organic Compound Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	1,420	6,220	7.10	6.39
Volatile Organic Compound	1,420	6,220	142	249
Volatile Organic Compound	9.90E-02	4.34E-01	9.90E-02	4.34E-01
Total Volatile Organic Compound	**1,420**	**6,220**	**149**	**249**

P31, S14, S200, S210, S220, S230: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Ammonia	7664-41-7	9.88E-01	8,655	2.26E-01	1,976	9.88E-01	No	Yes
Diethanolamine	111-42-2	7.56E-01	6,623	1.14E-01	1,000	5.00E-01	Yes	Yes
1,4-Dioxane (1,4-Diethylene oxide)	123-91-1	3.65E-02	31.4	5.37E-04	4.70	2.35E-03	Yes	Yes
Ethyl Acrylate	140-88-5	2.30E-02	201	3.42E-03	30.0	1.50E-02	Yes	Yes
Ethylbenzene	100-41-4	126	1,100,256	18.9	165,200	82.6	Yes	Yes
Ethylene Glycol	107-21-1	80.4	704,304	12.1	105,800	52.9	Yes	Yes
Formaldehyde	50-00-0	1.72	1,479	2.53E-02	222	1.11E-01	Yes	Yes
Glycol Ethers	Total	480	4,205,238	88.4	774,000	387	Yes	No

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	3.24E-02	284	4.79E-03	42.0	2.10E-02	Yes	Yes
Phenol	108-95-2	1.69E-01	1,480	2.53E-02	222	1.11E-01	Yes	Yes
Sulfuric Acid	7664-93-9	7.30E-02	639	1.10E-02	96.0	4.80E-02	No	Yes
Toluene	108-88-3	106	928,472	15.9	139,220	69.6	Yes	Yes
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	3.52E-04	3.08	5.27E-05	4.62E-01	2.31E-04	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	578	5,062,404	86.7	759,200	380	Yes	Yes

P31, S14, S200, S210, S220, S230: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	2,104	9,216	2,104	9,216	1	2,104	9,216
Methane (CH4)	1.00E-03	2.20E-03	3.97E-02	1.74E-01	3.97E-02	1.74E-01	21	8.33E-01	3.65
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	3.97E-03	1.74E-02	3.97E-03	1.74E-02	310	1.23	5.39
Total			**2,104**	**9,216**	**2,104**	**9,216**		**2,106**	**9,225**

7. **Process P32, Stack S16, Control Device C03 — Coiled Web Maker**

P32, S16: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	3.41	14.9	3.41	14.9
PM10	3.41	14.9	1.00	4.38
PM2.5	1.00	4.38	1.00	4.38

P32, S16: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Diethyl hexyl phthalate (Bis(2-ethyl hexyl) phthalate; Di-sec-octyl phthalate; DEHP)	117-81-7	276	2,417,760	1.97E-03	17.3	8.63E-03	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	1.74E-01	1,524	1.74E-01	1,524	7.62E-01	Yes	Yes

8. **Process P36, Stack S14, Control Device C01 — Pigment Mill Mix Area**

P36, S14: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	1.75E-01	7.67E-01	1.75E-03	7.67E-03
PM10	1.75E-01	7.67E-01	1.75E-03	7.67E-03
Volatile Organic Compound	6.54	28.6	2.62E-01	1.15

P36, S14: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Methyl isobutyl ketone (MIBK; Hexone)	108-10-1	4.02	35,215	1.61E-01	1,409	7.04E-01	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	2.52	22,075	1.01E-01	883	4.42E-01	Yes	Yes

9. **Process P40, Stack S260 — Columbia Press**

P40, S260: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	1.05	4.83	1.05	4.80

P40, S260: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

10. **Process P44, Stack S34, Control Device C11 — Safety Walk Maker**

P44, S34: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	3.00	13.1	1.52	6.66
PM10	3.00	13.1	1.50E-01	6.57E-01
PM2.5	1.50E-01	6.57E-01	1.50E-01	6.57E-01

Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

11. **Process P45, Stack S36, Control Device C06 — Mineral Handling Area**

P45, S36: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	300	1,314	1.11	4.85
PM10	300	1,314	1.11	4.85
PM2.5	1.50	6.57	1.11	4.85

P45, S36: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

12. **Process P50, Stack S42, Control Device C07 — Thinsulate Maker**

P50, S42: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	3.92E-01	1.72	3.92E-03	1.72E-02
Volatile Organic Compound	4.91E-01	2.15	4.91E-01	2.15

P50, S42: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Acetaldehyde	75-07-0	9.48E-03	83.0	9.48E-03	83.0	4.15E-02	Yes	Yes
Acrolein	107-02-8	4.86E-04	4.26	4.86E-04	4.26	2.13E-03	Yes	Yes
Acrylic Acid	79-10-7	4.80E-05	4.20E-01	4.80E-05	4.20E-01	2.10E-04	Yes	Yes
Formaldehyde	50-00-0	1.15E-02	100	1.15E-02	100	5.02E-02	Yes	Yes

13. **Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning**

P52, S46: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions	Potential to Emit

	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	4.50	19.7	1.51E-01	6.59E-01
PM10	4.50	19.7	1.51E-01	6.59E-01
PM2.5	1.00	4.38	1.00	4.38

P52, S46: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Formaldehyde	50-00-0	6.40E-02	561	7.31E-03	64.0	3.20E-02	Yes	Yes
Hydrogen Chloride	7647-01-0	2.50	21,900	2.50E-01	2,190	1.10	Yes	Yes

14. **Process P54, Stack S54 — Belt Making Area**

P54, S54: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	6.44	28.2	6.44	28.0

P54, S54: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

15. **Process P55, Stack S14, Control Device C01 — 24CC Maker**

P55, S14: Criteria Pollutant Emissions from Natural Gas Curing Oven

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	4.20E-01	1.84	4.20E-01	1.84
Nitrogen Oxide	100	1.4-1	5.00E-01	2.19	5.00E-01	2.19
Particulate Matter	7.60	1.4-2	3.80E-02	1.66E-01	3.80E-02	1.66E-01
PM10	7.60	1.4-2	3.80E-02	1.66E-01	3.80E-02	1.66E-01
Sulfur Dioxide	6.00E-01	1.4-2	3.00E-03	1.31E-02	3.00E-03	1.31E-02

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	5.50	1.4-2	2.75E-02	1.20E-01	2.75E-02	1.20E-01

P55, S14: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P55, S14: Criteria Pollutant Emissions from Coating Operations

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	59.4	260	8.90	39.0

P55, S14: Total Volatile Organic Compound Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	2.75E-02	1.20E-01	2.75E-02	1.20E-01
Volatile Organic Compound	59.4	260	8.90	39.0
Total Volatile Organic Compound	**59.4**	**260**	**8.93**	**39.0**

P55, S14: Hazardous Air Pollutant Emissions from Coating Operations

Pollutant	CAS	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Ethylbenzene	100-41-4	1.03	9,023	1.03	9,023	4.51	Yes	Yes
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	3.70E-05	3.24E-01	3.70E-05	3.24E-01	1.62E-04	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	5.84	51,158	5.84	51,158	25.6	Yes	Yes

P55, S14: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	584	2,560	584	2,560	1	584	2,560
Methane (CH4)	1.00E-03	2.20E-03	1.10E-02	4.83E-02	1.10E-02	4.83E-02	21	2.31E-01	1.01
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	1.10E-03	4.83E-03	1.10E-03	4.83E-03	310	3.42E-01	1.50
Total			**584**	**2,560**	**584**	**2,560**		**585**	**2,562**

16. **Process P56, Stacks S14, S240, S250, Control Device C01 — 25 Maker**

P56, S14, S240, S250: Criteria Pollutant Emissions-when using coatings containing no more than 0.5% VOC by weight-uncontrolled mode

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	860	3,767	4.30	6.45

P56, S14, S240, S250: Criteria Pollutant Emissions-when using coatings containing more than 0.5% VOC by weight-controlled mode

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	860	3,767	86.0	248

P56, S14, S240, S250: Criteria Pollutant Emissions from Natural Gas Curing Oven

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	$lb/10^6$ SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	2.10	9.20	2.10	9.20
Nitrogen Oxide	100	1.4-1	2.50	11.0	2.50	11.0
Particulate Matter	7.60	1.4-2	1.90E-01	8.32E-01	1.90E-01	8.32E-01
PM10	7.60	1.4-2	1.90E-01	8.32E-01	1.90E-01	8.32E-01
Sulfur Dioxide	6.00E-01	1.4-2	1.50E-02	6.57E-02	1.50E-02	6.57E-02
Volatile Organic Compound	5.50	1.4-2	1.38E-01	6.02E-01	1.38E-01	6.02E-01

P56, S14, S240, S250: Hazardous Air Pollutant Emissions from Natural Gas Combustion

The hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P56, S14, S240, S250: Total Volatile Organic Compound Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	860	3,767	4.30	6.45
Volatile Organic Compound	860	3,767	86.0	248
Volatile Organic Compound	1.38E-01	6.02E-01	1.38E-01	6.02E-01
Total Volatile Organic Compound	**860**	**3,767**	**90.4**	**249**

P56, S14, S240, S250: Total Hazardous Air Pollutant Emissions From 25 Maker (P56)

Pollutant	CAS	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Formaldehyde	50-00-0	22.6	197,976	2.26	19,798	9.90	Yes	Yes
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	0.500	4,380	0.050	438	0.219	Yes	Yes

P56, S14, S240, S250: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	2,922	12,799	2,922	12,799	1	2,922	12,799
Methane (CH4)	1.00E-03	2.20E-03	5.51E-02	2.41E-01	5.51E-02	2.41E-01	21	1.16	5.07
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	5.51E-03	2.41E-02	5.51E-03	2.41E-02	310	1.71	7.48
Total			**2,922**	**12,800**	**2,922**	**12,800**		**2,925**	**12,812**

17. **Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area**

P64, S44: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions	Potential to Emit

	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	4.00E-01	1.75	4.00E-01	1.75
PM10	4.00E-01	1.75	4.00E-01	1.75
PM2.5	4.00E-01	1.75	4.00E-01	1.75

P64, S44: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

18. **Process P65, Stacks S45, S45A, S46B, S46C — 26 Maker**

P65, S45, S45A, S46B, S46C: Criteria Pollutant Emissions from Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	1.36E-01	5.95E-01	1.36E-01	5.95E-01
Nitrogen Oxide	100	1.4-1	1.62E-01	7.09E-01	1.62E-01	7.09E-01
Particulate Matter	7.60	1.4-2	1.23E-02	5.38E-02	1.23E-02	5.38E-02
PM10	7.60	1.4-2	1.23E-02	5.38E-02	1.23E-02	5.38E-02
Sulfur Dioxide	6.00E-01	1.4-2	9.71E-04	4.25E-03	9.71E-04	4.25E-03
Volatile Organic Compound	5.50	1.4-2	8.90E-03	3.90E-02	8.90E-03	3.90E-02

P65, S45, S45A, S46B, S46C: Total PM2.5 Emissions

Pollutant	Oven	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	Oven 1	3.73E-02	1.63E-01	3.73E-02	1.63E-01
PM2.5	Oven 2	3.73E-02	1.63E-01	3.73E-02	1.63E-01
PM2.5	Oven 3	3.73E-02	1.63E-01	3.73E-02	1.63E-01
Total		**1.12E-01**	**4.90E-01**	**1.12E-01**	**4.90E-01**

P65, S45, S45A, S46B, S46C: Hazardous Air Pollutant Emissions from Natural Gas Combustion
Hazardous air pollutant emissions resulting from natural gas combustion are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility. No other hazardous air pollutant emissions are generated from the material being heat treated in the ovens or from processing.

P65, S45, S45A, S46B, S46C: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	193	845	193	845	1	193	845
Methane (CH4)	1.00E-03	2.20E-03	3.64E-03	1.59E-02	3.64E-03	1.59E-02	21	7.64E-02	3.35E-01
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	3.64E-04	1.59E-03	3.64E-04	1.59E-03	310	1.13E-01	4.94E-01
Total			**193**	**845**	**193**	**845**		**193**	**846**

19. **Process P66, Stack S49 — Urethane (MDI) Sponge Coating Process**

P66, S49: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	1.35	5.91	1.35	5.91
Volatile Organic Compound	1.92E-01	8.40E-01	1.92E-01	8.40E-01

P66, S49: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Methylene Bisphenyl Isocyanate (Methylene Diphenyl Isocyanate; MDI)	101-68-8	1.50E-03	13.1	1.50E-03	13.1	6.57E-03	Yes	Yes

20. **Process P67, Stack S47, S48, Control Device C21 — 27 Maker Coral Line**

P67, S47, S48: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	3.00E-03	1.31E-02	3.00E-03	1.31E-02

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
PM10	3.00E-03	1.31E-02	3.00E-03	1.31E-02
Volatile Organic Compound	1.45E-01	6.35E-01	1.45E-01	6.35E-01

P67, S47, S48: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Chloroethane (Ethyl Chloride)	75-00-3	4.40E-02	385	4.40E-02	385	1.93E-01	Yes	Yes
Phenol	108-95-2	7.32E-01	6,412	7.32E-01	6,412	3.21	Yes	Yes

21. **Process P68, Stack S68 — Sanding Cloth Line**

P68, S68: Criteria Pollutant Emissions

Pollutant	Emission Factor	Maximum Theoretical Emissions		Potential to Emit	
	lb/kW	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	0.071	2.66	11.6	2.66	11.0

P68, S68: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

22. **Process P69, Stack S69, Control Device C69 — Thinsulate Maker**

P69, S69: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Particulate Matter	6.53E-01	2.86	6.53E-03	2.86E-02
Volatile Organic Compound	8.19E-01	3.59	8.19E-01	3.59

P69, S69: Hazardous Air Pollutant Emissions

Pollutant	CAS	Maximum Theoretical Emissions		Potential to Emit			Federal Listed HAP	State Listed HAP
		lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Acetaldehyde	75-07-0	1.58E-02	138	1.58E-02	138	6.92E-02	Yes	Yes
Acrolein	107-02-8	8.10E-04	7.10	8.10E-04	7.10	3.55E-03	Yes	Yes
Acrylic Acid	79-10-7	8.00E-05	7.01E-01	8.00E-05	7.01E-01	3.50E-04	Yes	Yes
Formaldehyde	50-00-0	1.91E-02	167	1.91E-02	167	8.37E-02	Yes	Yes

23. **Process P270, Stack S270 — Post Cure Oven**

P270, S270: Criteria Pollutant Emissions

Pollutant	Maximum Theoretical Emissions		Potential to Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	6.00E-02	2.63E-01	6.00E-02	2.63E-01

P270, S270: Hazardous Air Pollutant Emissions
No hazardous air pollutants are emitted.

24. **Process P271, Stack S271 — 285 kW Emergency Diesel Generator**

P271, S271: Criteria Pollutant Emissions From Diesel Fuel Combustion

Pollutant	Emission Factor	Emission Factor Source	Maximum Theoretical Emissions		Potential to Emit	
	lb/MMBtu		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	9.50E-01	AP-42 (3.3-1)	2.54	11.1	2.54	2.54E-01
Nitrogen Oxide	4.41	AP-42 (3.3-1)	11.8	51.7	11.8	1.18
Particulate Matter	3.10E-01	AP-42 (3.3-1)	8.29E-01	3.63	8.29E-01	8.29E-02
PM10	3.10E-01	AP-42 (3.3-1)	8.29E-01	3.63	8.29E-01	8.29E-02
Sulfur Dioxide	2.90E-01	AP-42 (3.3-1)	7.75E-01	3.40	7.75E-01	7.75E-02
Volatile Organic Compound	3.50E-01	AP-42 (3.3-1)	9.36E-01	4.10	9.36E-01	9.36E-02

P271, S271: Hazardous Air Pollutant Emissions from Diesel Fuel Combustion
The hazardous air pollutant emissions resulting from diesel fuel combustion have not been listed here because they are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

P271, S271: Greenhouse Gas Emissions from Diesel Fuel Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	73.96	163.1	436	1,910	436	1,910	1	436	1,910
Methane (CH4)	3.00E-03	6.61E-03	1.77E-02	7.75E-02	1.77E-02	7.75E-02	21	3.71E-01	1.63
Nitrous Oxide (N2O)	6.00E-04	1.32E-03	3.54E-03	1.55E-02	3.54E-03	1.55E-02	310	1.10	4.80
Total			**436**	**1,910**	**436**	**1,910**		**437**	**1,916**

25. **Regenerative Thermal Oxidizer C01**

C01: Criteria Pollutant Emissions From Natural Gas Combustion

Pollutant	Emission Factor	AP-42 Table	Maximum Theoretical Emissions		Potential to Emit	
	lb/10^6 SCF		lb/hr	ton/yr	lb/hr	ton/yr
Carbon Monoxide	84.0	1.4-1	2.94	12.9	2.94	12.9
Nitrogen Oxide	100	1.4-1	3.50	15.3	3.50	15.3
Particulate Matter	7.60	1.4-2	2.66E-01	1.17	2.66E-01	1.17
PM10	7.60	1.4-2	2.66E-01	1.17	2.66E-01	1.17
Sulfur Dioxide	6.00E-01	1.4-2	2.10E-02	9.20E-02	2.10E-02	9.20E-02
Volatile Organic Compound	5.50	1.4-2	1.93E-01	8.43E-01	1.93E-01	8.43E-01

C01: PM2.5 Emissions

Pollutant	Maximum Theoretical Emissions		Potential To Emit	
	lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	0.583	2.553	0.583	2.55

C01: Hazardous Air Pollutant Emissions from Natural Gas Combustion

Hazardous air pollutant emissions resulting from natural gas combustion have not been listed here because they are negligible and do not significantly contribute to the total federal hazardous air pollutant emissions from the entire facility.

C01: Greenhouse Gas Emissions from Natural Gas Combustion

Greenhouse Gas Pollutant	Emission Factor		Maximum Theoretical Emissions (Greenhouse Gas Mass Emissions)		Potential to Emit (Greenhouse Gas Mass Emissions)		Global Warming Potential (CO_2e/CO_2)	Potential to Emit-Carbon Dioxide Equivalent (CO2e)	
	kg/MMBtu	lb/MMBtu	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr
Carbon Dioxide (CO2)	53.02	116.9	4,091	17,919	4,091	17,919	1	4,091	17,919
Methane (CH4)	1.00E-03	2.20E-03	7.72E-02	3.38E-01	7.72E-02	3.38E-01	21	1.62	7.10
Nitrous Oxide (N2O)	1.00E-04	2.20E-04	7.72E-03	3.38E-02	7.72E-03	3.38E-02	310	2.39	10.5
Total			**4,091**	**17,919**	**4,091**	**17,919**		**4,095**	**17,937**

B. Facility Emissions Summary.

Total Criteria Pollutant Emissions

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Total Greenhouse Gas Mass Emissions	B21	2,055	8,999	2,055	8,999
Total Greenhouse Gas Mass Emissions	B22	2,723	11,927	2,723	11,927
Total Greenhouse Gas Mass Emissions	B23	3,604	15,784	3,604	15,784
Total Greenhouse Gas Mass Emissions	P07	526	2,304	526	2,304
Total Greenhouse Gas Mass Emissions	P30	326	1,428	326	1,428
Total Greenhouse Gas Mass Emissions	P31	2,104	9,216	2,104	9,216
Total Greenhouse Gas Mass Emissions	P55	584	2,560	584	2,560
Total Greenhouse Gas Mass Emissions	P56	2,922	12,800	2,922	12,800
Total Greenhouse Gas Mass Emissions	P65	193	845	193	845

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Total Greenhouse Gas Mass Emissions	P271	436	1,910	436	1,910
Total Greenhouse Gas Mass Emissions	C01-Natural Gas Combustion	4,091	17,919	4,091	17,919
Total					**85,692**
Carbon Dioxide Equivalent (CO_2e)	B21	2,061	9,029	2,061	9,029
Carbon Dioxide Equivalent (CO_2e)	B22	2,732	11,967	2,732	11,967
Carbon Dioxide Equivalent (CO_2e)	B23	3,616	15,836	3,616	15,836
Carbon Dioxide Equivalent (CO_2e)	P07	527	2,306	527	2,306
Carbon Dioxide Equivalent (CO_2e)	P30	327	1,433	327	1,433
Carbon Dioxide Equivalent (CO_2e)	P31	2,106	9,225	2,106	9,225
Carbon Dioxide Equivalent (CO_2e)	P55	585	2,562	585	2,562
Carbon Dioxide Equivalent (CO_2e)	P56	2,925	12,812	2,925	12,812
Carbon Dioxide Equivalent (CO_2e)	P65	193	846	193	846
Carbon Dioxide Equivalent (CO_2e)	P271	437	1,916	437	1,916
Carbon Dioxide Equivalent (CO_2e)	C01-Natural Gas Combustion	4,095	17,937	4,095	17,937
Total					**85,869**
Carbon Monoxide	B21	1.04	4.54	1.04	4.54
Carbon Monoxide	B22	1.38	6.02	1.38	6.02
Carbon Monoxide	B23	1.82	7.97	1.82	7.97
Carbon Monoxide	P07	3.78E-01	1.66	3.78E-01	1.66
Carbon Monoxide	P31	1.51	6.62	1.51	6.62
Carbon Monoxide	P55	4.20E-01	1.84	4.20E-01	1.84
Carbon Monoxide	P56	2.10	9.20	2.10	9.20
Carbon Monoxide	P65	1.36E-01	5.95E-01	1.36E-01	5.95E-01
Carbon Monoxide	P271	2.54	1.11E+01	2.54	2.54E-01
Carbon Monoxide	C01-Natural Gas Combustion	2.94	12.9	2.94	12.9
Total					**51.6**
Nitrogen Oxide	B21	1.80	7.88	1.80	7.88

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Nitrogen Oxide	B22	2.39	10.4	2.39	10.4
Nitrogen Oxide	B23	3.16	13.8	3.16	13.8
Nitrogen Oxide	P07	4.50E-01	1.97	4.50E-01	1.97
Nitrogen Oxide	P31	1.80	7.88	1.80	7.88
Nitrogen Oxide	P55	5.00E-01	2.19	5.00E-01	2.19
Nitrogen Oxide	P56	2.50	11.0	2.50	11.0
Nitrogen Oxide	P65	1.62E-01	7.09E-01	1.62E-01	7.09E-01
Nitrogen Oxide	P271	1.18E+01	5.17E+01	1.18E+01	1.18
Nitrogen Oxide	C01-Natural Gas Combustion	3.50	15.3	3.50	15.3
Total					**72.4**
Particulate Matter	B21	1.80E-01	7.88E-01	1.80E-01	7.88E-01
Particulate Matter	B22	2.39E-01	1.04	2.39E-01	1.04
Particulate Matter	B23	3.16E-01	1.38	3.16E-01	1.38
Particulate Matter	P07	3.42E-02	1.50E-01	3.42E-02	1.50E-01
Particulate Matter	P07 (S06)	2.56E-01	1.12	2.56E-01	1.12
Particulate Matter	P07 (S07)	2.56E-01	1.12	2.56E-01	1.12
Particulate Matter	P31	1.37E-01	5.99E-01	1.37E-01	5.99E-01
Particulate Matter	P32	3.41	14.9	3.41	14.9358
Particulate Matter	P36	1.75E-01	7.67E-01	1.75E-03	7.67E-03
Particulate Matter	P44	3.00	13.1	1.52E+00	6.66E+00
Particulate Matter	P45	300	1,314	1.11	4.85
Particulate Matter	P50	3.92E-01	1.72	3.92E-03	1.72E-02
Particulate Matter	P52	4.50	19.7	1.51E-01	6.59E-01
Particulate Matter	P55	3.80E-02	1.66E-01	3.80E-02	1.66E-01
Particulate Matter	P56	1.90E-01	8.32E-01	1.90E-01	8.32E-01
Particulate Matter	P64	4.00E-01	1.75	4.00E-01	1.75
Particulate Matter	P65	1.23E-02	5.38E-02	1.23E-02	5.38E-02
Particulate Matter	P67	3.00E-03	1.31E-02	3.00E-03	1.31E-02
Particulate Matter	P69	6.53E-01	2.86	6.53E-03	2.86E-02
Particulate Matter	P271	8.29E-01	3.63	8.29E-01	8.29E-02
Particulate Matter	C01-Natural Gas Combustion	2.66E-01	1.17	2.66E-01	1.17

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Total					**37.4**
PM10	B21	1.80E-01	7.88E-01	1.80E-01	7.88E-01
PM10	B22	2.39E-01	1.04	2.39E-01	1.04
PM10	B23	3.16E-01	1.38	3.16E-01	1.38
PM10	P07	3.42E-02	1.50E-01	3.42E-02	1.50E-01
PM10	P07 (S06)	2.56E-01	1.12	2.56E-01	1.12
PM10	P07 (S07)	2.56E-01	1.12	2.56E-01	1.12
PM10	P31	1.37E-01	5.99E-01	1.37E-01	5.99E-01
PM10	P32	3.41	14.9	1.00	4.38
PM10	P36	1.75E-01	7.67E-01	1.75E-03	7.67E-03
PM10	P44	3.00	13.1	1.50E-01	6.57E-01
PM10	P45	300	1,314	1.11	4.85
PM10	P52	4.50	19.7	1.51E-01	6.59E-01
PM10	P55	3.80E-02	1.66E-01	3.80E-02	1.66E-01
PM10	P56	1.90E-01	8.32E-01	1.90E-01	8.32E-01
PM10	P64	4.00E-01	1.75	4.00E-01	1.75
PM10	P65	1.23E-02	5.38E-02	1.23E-02	5.38E-02
PM10	P67	3.00E-03	1.31E-02	3.00E-03	1.31E-02
PM10	P271	8.29E-01	3.63	8.29E-01	8.29E-02
PM10	C01-Natural Gas Combustion	2.66E-01	1.17	2.66E-01	1.17
Total					**20.8**
PM2.5	B21	5.40E-01	2.37	5.40E-01	2.37
PM2.5	B22	7.20E-01	3.15	7.20E-01	3.15
PM2.5	B23	9.60E-01	4.20	9.60E-01	4.20
PM2.5	P07	3.35E-02	1.47E-01	3.35E-02	1.47E-01
PM2.5	P32	1.00	4.38	1.00	4.38
PM2.5	P44	1.50E-01	6.57E-01	1.50E-01	6.57E-01
PM2.5	P45	1.50	6.57	1.11	4.85
PM2.5	P52	1.00	4.38	1.00	4.38
PM2.5	P64	4.00E-01	1.75	4.00E-01	1.75
PM2.5	P65	1.12E-01	4.90E-01	1.12E-01	4.90E-01
PM2.5	P66	1.35	5.91	1.35	5.91

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
PM2.5	C01-Natural Gas Combustion	5.83E-01	2.55	5.83E-01	2.55
Total					**34.8**
Sulfur Dioxide	B21	6.39	28.0	6.39	28.0
Sulfur Dioxide	B22	8.47	37.1	8.47	37.1
Sulfur Dioxide	B23	3.36E-02	1.47E-01	3.36E-02	1.47E-01
Sulfur Dioxide	P07	2.70E-03	1.18E-02	2.70E-03	1.18E-02
Sulfur Dioxide	P31	1.08E-02	4.73E-02	1.08E-02	4.73E-02
Sulfur Dioxide	P55	3.00E-03	1.31E-02	3.00E-03	1.31E-02
Sulfur Dioxide	P56	1.50E-02	6.57E-02	1.50E-02	6.57E-02
Sulfur Dioxide	P65	9.71E-04	4.25E-03	9.71E-04	4.25E-03
Sulfur Dioxide	P271	7.75E-01	3.40	7.75E-01	7.75E-02
Sulfur Dioxide	C01-Natural Gas Combustion	2.10E-02	9.20E-02	2.10E-02	9.20E-02
Total					**65.5**
Volatile Organic Compound	B21	6.79E-02	2.98E-01	6.79E-02	2.98E-01
Volatile Organic Compound	B22	9.00E-02	3.94E-01	9.00E-02	3.94E-01
Volatile Organic Compound	B23	1.19E-01	5.22E-01	1.19E-01	5.22E-01
Volatile Organic Compound	P07	2.48E-02	1.08E-01	2.48E-02	1.08E-01
Volatile Organic Compound	P07 (S09)	7.30	32.0	1.93E-01	8.45E-01
Volatile Organic Compound	P30	535	2,343	80.3	249
Volatile Organic Compound	P31	1,420	6,220	149	249
Volatile Organic Compound	P36	6.54	28.6	2.62E-01	1.15
Volatile Organic Compound	P40	1.10	4.83	1.10	4.80
Volatile Organic Compound	P54	6.44	28.2	6.44	28.0
Volatile Organic Compound	P55	59.4	260	8.93	39.0
Volatile Organic Compound	P56	860	3,767	90.4	249
Volatile Organic Compound	P65	8.90E-03	3.90E-02	8.90E-03	3.90E-02
Volatile Organic Compound	P66	1.92E-01	8.40E-01	1.92E-01	8.40E-01
Volatile Organic Compound	P67	1.45E-01	6.35E-01	1.45E-01	6.35E-01
Volatile Organic Compound	P68	2.66	11.6	2.66	11.0
Volatile Organic Compound	P69	8.19E-01	3.59	8.19E-01	3.59
Volatile Organic Compound	P270	6.00E-02	2.63E-01	6.00E-02	2.63E-01

Pollutant	Process	Maximum Theoretical Emissions		Potential To Emit	
		lb/hr	ton/yr	lb/hr	ton/yr
Volatile Organic Compound	P271	9.36E-01	4.10	9.36E-01	9.36E-02
Volatile Organic Compound	C01-Natural Gas Combustion	1.93E-01	8.43E-01	1.93E-01	8.43E-01
Total					**249**
Ozone	Corona Treater (I6)	8.52E-02	3.73E-01	8.52E-02	3.73E-01
Total					**3.73E-01**

Total Federal Hazardous Air Pollutant Emissions

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Acetaldehyde	75-07-0	P50	9.48E-03	8.30E+01	9.48E-03	8.30E+01	4.15E-02	Yes	Yes
Acetaldehyde	75-07-0	P69	1.58E-02	1.38E+02	1.58E-02	1.38E+02	6.92E-02	Yes	Yes
Total Acetaldehyde							**1.11E-01**		
Acrolein	107-02-8	P50	4.86E-04	4.26E+00	4.86E-04	4.26	2.13E-03	Yes	Yes
Acrolein	107-02-8	P69	8.10E-04	7.10	8.10E-04	7.10	3.55E-03	Yes	Yes
Total Acrolein							**5.68E-03**		
Acrylic Acid	79-10-7	P50	4.80E-05	4.20E-01	4.80E-05	4.20E-01	2.10E-04	Yes	Yes
Acrylic Acid	79-10-7	P69	8.00E-05	7.01E-01	8.00E-05	7.01E-01	3.50E-04	Yes	Yes
Total Acrylic Acid							**5.61E-04**		
Arsenic	7440-38-2	B21	5.04E-05	4.42E-01	5.04E-05	4.42E-01	2.21E-04	Yes	Yes
Arsenic	7440-38-2	B22	6.68E-05	5.85E-01	6.68E-05	5.85E-01	2.93E-04	Yes	Yes
Arsenic	7440-38-2	B23	8.84E-05	7.74E-01	8.84E-05	7.74E-01	3.87E-04	Yes	Yes
Total Arsenic							**9.01E-04**		
Benzene	71-43-2	B21	2.59E-05	2.27E-01	2.59E-05	2.27E-01	1.14E-04	Yes	Yes
Benzene	71-43-2	B22	3.44E-05	3.01E-01	3.44E-05	3.01E-01	1.51E-04	Yes	Yes
Benzene	71-43-2	B23	4.55E-05	3.99E-01	4.55E-05	3.99E-01	1.99E-04	Yes	Yes
Total Benzene							**4.64E-04**		
Beryllium	7440-41-7	B21	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Beryllium	7440-41-7	B22	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Beryllium	7440-41-7	B23	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Total Beryllium							**6.75E-04**		
Cadmium	7440-43-9	B21	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Cadmium	7440-43-9	B22	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Cadmium	7440-43-9	B23	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Total Cadmium							**6.75E-04**		
Chloroethane (Ethyl Chloride)	75-00-3	P67	4.40E-02	3.85E+02	4.40E-02	3.85E+02	1.93E-01	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	B21	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	B22	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Chromium (metal) and compounds other than Chromium (VI)	7440-47-3	B23	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Total Chromium (metal) and compounds other than Chromium (VI)							**6.75E-04**		
Diethanolamine	111-42-2	P31	7.56E-01	6.62E+03	1.14E-01	1.00E+03	5.00E-01	Yes	Yes
Diethyl hexyl phthalate (Bis(2-ethyl hexyl) phthalate; Di-sec-octyl phthalate; DEHP)	117-81-7	P32	2.76E+02	2.42E+06	1.97E-03	1.73E+01	8.63E-03	Yes	Yes
1,4-Dioxane (1,4-Diethylene oxide)	123-91-1	P31	3.65E-02	3.14E+01	5.37E-04	4.70	2.35E-03	Yes	Yes
Ethyl Acrylate	140-88-5	P31	2.30E-02	2.01E+02	3.42E-03	3.00E+01	1.50E-02	Yes	Yes
Ethylbenzene	100-41-4	P55	1.03	9.02E+03	1.03	9.02E+03	4.51	Yes	Yes
Ethylbenzene	100-41-4	B21	5.72E-06	5.01E-02	5.72E-06	5.01E-02	2.51E-05	Yes	Yes
Ethylbenzene	100-41-4	B22	7.59E-06	6.65E-02	7.59E-06	6.65E-02	3.32E-05	Yes	Yes
Ethylbenzene	100-41-4	B23	1.00E-05	8.79E-02	1.00E-05	8.79E-02	4.40E-05	Yes	Yes
Ethylbenzene	100-41-4	P30	1.60E+02	1.40E+06	2.39E+01	2.10E+05	1.05E+02	Yes	Yes
Ethylbenzene	100-41-4	P31	1.26E+02	1.10E+06	1.89E+01	1.65E+05	8.26E+01	Yes	Yes

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Total Ethylbenzene							**192**		
Ethylene Glycol	107-21-1	P31	8.04E+01	7.04E+05	1.21E+01	1.06E+05	5.29E+01	Yes	Yes
Formaldehyde	50-00-0	B21	2.97E-03	2.60E+01	2.97E-03	2.60E+01	1.30E-02	Yes	Yes
Formaldehyde	50-00-0	B22	3.94E-03	3.45E+01	3.94E-03	3.45E+01	1.72E-02	Yes	Yes
Formaldehyde	50-00-0	B23	5.21E-03	4.56E+01	5.21E-03	4.56E+01	2.28E-02	Yes	Yes
Formaldehyde	50-00-0	P07 (S09)	7.80E-01	6.83E+03	1.50E-01	1.31E+03	6.57E-01	Yes	Yes
Formaldehyde	50-00-0	P30	3.27	2.86E+04	4.90E-01	4.29E+03	2.15	Yes	Yes
Formaldehyde	50-00-0	P31	1.72	1.48E+03	2.53E-02	2.22E+02	1.11E-01	Yes	Yes
Formaldehyde	50-00-0	P50	1.15E-02	1.00E+02	1.15E-02	1.00E+02	5.02E-02	Yes	Yes
Formaldehyde	50-00-0	P52	6.40E-02	5.61E+02	7.31E-03	6.40E+01	3.20E-02	Yes	Yes
Formaldehyde	50-00-0	P56	2.26E+01	1.98E+05	2.26E+00	1.98E+04	9.90	Yes	Yes
Formaldehyde	50-00-0	P69	1.91E-02	1.67E+02	1.91E-02	1.67E+02	8.37E-02	Yes	Yes
Total Formaldehyde							**13.0**		
Glycol Ethers	Total	P30	5.13E+01	4.49E+05	7.69	6.74E+04	3.37E+01	Yes	No
Glycol Ethers	Total	P31	4.80E+02	4.21E+06	8.84E+01	7.74E+05	3.87E+02	Yes	No
Total Glycol Ethers							**421**		
Hexane	110-54-3	B21	2.22E-02	1.95E+02	2.22E-02	1.95E+02	9.74E-02	Yes	Yes
Hexane	110-54-3	B22	2.95E-02	2.58E+02	2.95E-02	2.58E+02	1.29E-01	Yes	Yes
Hexane	110-54-3	B23	3.90E-02	3.42E+02	3.90E-02	3.42E+02	1.71E-01	Yes	Yes
Total Hexane							**3.97E-01**		
Hydrogen Chloride	7647-01-0	P52	2.50	2.19E+04	2.50E-01	2.19E+03	1.10	Yes	Yes
Lead	7439-92-1	B21	1.13E-04	9.93E-01	1.13E-04	9.93E-01	4.97E-04	Yes	No
Lead	7439-92-1	B22	1.50E-04	1.32	1.50E-04	1.32	6.58E-04	Yes	No
Lead	7439-92-1	B23	1.99E-04	1.74	1.99E-04	1.74	8.71E-04	Yes	No
Total Lead							**2.03E-03**		
Manganese	7439-96-5	B21	7.56E-05	6.62E-01	7.56E-05	6.62E-01	3.31E-04	Yes	Yes
Manganese	7439-96-5	B22	1.00E-04	8.78E-01	1.00E-04	8.78E-01	4.39E-04	Yes	Yes
Manganese	7439-96-5	B23	1.33E-04	1.16	1.33E-04	1.16	5.81E-04	Yes	Yes
Total Manganese							**1.35E-03**		
Mercury aryl and inorganic compounds	7439-97-6	B21	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Mercury aryl and inorganic compounds	7439-97-6	B22	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Mercury aryl and inorganic compounds	7439-97-6	B23	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes
Total Mercury aryl and inorganic compounds							**6.75E-04**		
Methanol	67-56-1	P07 (S09)	9.00E-03	7.88E+01	9.00E-03	7.88E+01	3.94E-02	Yes	No
Methylene Bisphenyl Isocyanate (Methylene Diphenyl Isocyanate; MDI)	101-68-8	P66	1.50E-03	1.31E+01	1.50E-03	1.31E+01	6.57E-03	Yes	Yes
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	P30	8.70E+01	7.62E+05	1.49E-03	1.31E+01	6.53E-03	Yes	Yes
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	P31	3.24E-02	2.84E+02	4.79E-03	4.20E+01	2.10E-02	Yes	Yes
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9	P56	5.00E-01	4.38E+03	5.00E-02	4.38E+02	2.19E-01	Yes	Yes
Total 4,4'-Methylenedianiline (and dihydrochloride)							**2.47E-01**		
Methyl isobutyl ketone (MIBK; Hexone)	108-10-1	P30	6.97E+01	6.11E+05	1.05E+01	9.16E+04	4.58E+01	Yes	Yes
Methyl isobutyl ketone (MIBK; Hexone)	108-10-1	P36	4.02E+00	3.52E+04	1.61E-01	1.41E+03	7.04E-01	Yes	Yes
Total Methyl isobutyl ketone (MIBK; Hexone)							**46.5**		
Naphthalene	91-20-3	B21	1.02E-04	8.91E-01	1.02E-04	8.91E-01	4.45E-04	Yes	Yes
Naphthalene	91-20-3	B22	1.35E-04	1.18	1.35E-04	1.18	5.90E-04	Yes	Yes
Naphthalene	91-20-3	B23	1.78E-04	1.56	1.78E-04	1.56	7.81E-04	Yes	Yes
Total Naphthalene							**1.82E-03**		
Nickel	7440-02-0	B21	3.78E-05	3.31E-01	3.78E-05	3.31E-01	1.66E-04	Yes	Yes
Nickel	7440-02-0	B22	5.01E-05	4.39E-01	5.01E-05	4.39E-01	2.19E-04	Yes	Yes
Nickel	7440-02-0	B23	6.63E-05	5.81E-01	6.63E-05	5.81E-01	2.90E-04	Yes	Yes

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
Total Nickel							**6.75E-04**		
Phenol	108-95-2	P07 (S09)	5.50E-02	4.82E+02	5.50E-02	4.82E+02	2.41E-01	Yes	Yes
Phenol	108-95-2	P31	1.69E-01	1.48E+03	2.53E-02	2.22E+02	1.11E-01	Yes	Yes
Phenol	108-95-2	P67	7.32E-01	6.41E+03	7.32E-01	6.41E+03	3.21	Yes	Yes
Total Phenol							**3.56**		
Selenium	7782-49-2	B21	1.89E-04	1.66	1.89E-04	1.66	8.28E-04	Yes	Yes
Selenium	7782-49-2	B22	2.51E-04	2.19	2.51E-04	2.19	1.10E-03	Yes	Yes
Selenium	7782-49-2	B23	3.32E-04	2.90	3.32E-04	2.90	1.45E-03	Yes	Yes
Total Selenium							**3.38E-03**		
Toluene	108-88-3	B21	5.58E-04	4.89	5.58E-04	4.89	2.44E-03	Yes	Yes
Toluene	108-88-3	B22	7.40E-04	6.48	7.40E-04	6.48	3.24E-03	Yes	Yes
Toluene	108-88-3	B23	9.79E-04	8.57	9.79E-04	8.57	4.29E-03	Yes	Yes
Toluene	108-88-3	P30	8.40E+00	7.36E+04	1.26	1.10E+04	5.51	Yes	Yes
Toluene	108-88-3	P31	1.06E+02	9.28E+05	1.59E+01	1.39E+05	6.96E+01	Yes	Yes
Total Toluene							**75.1**		
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	P30	1.06E-03	9.29	1.58E-04	1.39	6.94E-04	Yes	Yes
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	P31	3.52E-04	3.08	5.27E-05	4.62E-01	2.31E-04	Yes	Yes
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9	P55	3.70E-05	3.24E-01	3.70E-05	3.24E-01	1.62E-04	Yes	Yes
Total 2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)							**1.09E-03**		
1,1,1-Trichloroethane	71-55-6	B21	2.12E-05	1.86E-01	2.12E-05	1.86E-01	9.30E-05	Yes	No
1,1,1-Trichloroethane	71-55-6	B22	2.82E-05	2.47E-01	2.82E-05	2.47E-01	1.23E-04	Yes	No
1,1,1-Trichloroethane	71-55-6	B23	3.73E-05	3.26E-01	3.73E-05	3.26E-01	1.63E-04	Yes	No
Total 1,1,1-Trichloroethane							**3.80E-04**		
o-Xylene	95-47-6	B21	9.81E-06	8.59E-02	9.81E-06	8.59E-02	4.30E-05	Yes	No

Pollutant	CAS	Process	Maximum Theoretical Emissions		Potential To Emit			Federal Listed HAP	State Listed HAP
			lb/hr	lb/yr	lb/hr	lb/yr	ton/yr		
o-Xylene	95-47-6	B22	1.30E-05	1.14E-01	1.30E-05	1.14E-01	5.69E-05	Yes	No
o-Xylene	95-47-6	B23	1.72E-05	1.51E-01	1.72E-05	1.51E-01	7.54E-05	Yes	No
Total o-Xylene							**1.75E-04**		
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	P30	6.72E+02	5.89E+06	2.25E+01	1.97E+05	9.85E+01	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	P31	5.78E+02	5.06E+06	8.67E+01	7.59E+05	3.80E+02	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	P32	1.74E-01	1.52E+03	1.74E-01	1.52E+03	7.62E-01	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	P36	2.52	2.21E+04	1.01E-01	8.83E+02	4.42E-01	Yes	Yes
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)	1330-20-7	P55	5.84	5.12E+04	5.84	5.12E+04	2.56E+01	Yes	Yes
Total Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene)							**505**		
Total s. 112(b), Clear Air Act Federal HAPs							**1,311**		

FACILITY AND PROJECT CLASSIFICATION

1. Existing Facility Status.

The facility is a major Part 70 source since the potential volatile organic compound emissions are greater than 100 tons per year. The facility is considered a major prevention of significant deterioration (PSD) source because potential volatile organic compound emissions exceed 250 tons per year. The facility is also considered a major source for federal hazardous air pollutants because the potential emissions for individual federal hazardous air pollutants are greater than 10 tons per year and the total potential emissions of all federal hazardous air pollutants for the entire facility is greater than 25 tons per year.

2. Facility Status After the Renewed Permit is Issued.

The facility will remain a major Part 70 source since the potential volatile organic compound emissions are greater than 100 tons per year. The facility will become a synthetic minor prevention of significant deterioration (PSD) source upon issuance of construction permit 11-SJZ-179 and operation permit 612023940-P10 because volatile organic compound emissions will be limited to less than 250 tons per year and the potential emissions of the other criteria pollutants (i.e. nonfugitive emission sources) are less than 250 tons per year. The total greenhouse gas mass emissions from the entire facility are greater than 100 tons per year and the total carbon dioxide equivalent emissions are less than 100,000 tons per year. As a result, the facility is considered a minor source for greenhouse gases. The facility will remain a major source for federal hazardous air pollutants because the potential emissions for individual federal hazardous air pollutants are greater than 10 tons per year and the total potential emissions from all federal hazardous air pollutants for the entire facility is greater than 25 tons per year.

3. EPA Class Code After the Renewed Permit is Issued.

☒	"A"	[Means the source's maximum theoretical emissions *and* potential to emit for one or more pollutants are greater than major source thresholds. The source is a major source (has a FOP)];
☐	"SM80"	[Means the source's maximum theoretical emissions of one or more pollutants are greater than major source thresholds and potential to emit is at least 80% but less than 100% of major source thresholds. The source is a non-major source (has a FESOP)];
☐	"SM"	[Means the source's maximum theoretical emissions of one or more pollutants are greater than major source thresholds but potential to emit for all pollutants is less than 80% of major source thresholds. The source is a non-major source (usually has a FESOP or a ROP)];
☐	"B"	[Means the source's maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds. The source is a non-major source (has a SOP or a ROP)].

4. Summary.

Applicability	Existing Facility		After Permit Renewal	
	Major	Minor	Major	Minor
PSD	x			x
Non-Attainment	Not Applicable			
Federal HAP	x		x	

Part 70 Applicability	Facility After Permit Renewal		
	Part 70	FESOP (Syn. Minor)	non-part 70
Status	x		

EPA Class Code	EPA Class Code After Permit Renewal			
	A	SM80	SM	B
Status	x			

FEDERAL COMPLIANCE ASSURANCE MONITORING (CAM) RULE (40 CFR PART 64 (64.1-64.10))

The CAM rule applies to every pollutant-specific emission unit at a major source that is required to obtain a Title V operating permit and satisfies the following three conditions:

1. The unit is subject to an emission limit or standard.
2. The unit uses a control device to achieve compliance with the emission limit or standard.
3. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the amount that classifies the source as a major source under 40 CFR Part 70 (Title V permitting).

The following emission units are subject to an emission limit, use a control device to achieve compliance with the emission limit, and have potential pre-control device emissions greater than the Part 70 major source threshold. All other emission units operated at the facility do not generate potential pre-control device emissions greater than the Part 70 major source threshold for a pollutant that is subject to an emission limit or standard.

Process P30, Stack S14, Control Device C01 — 22 Maker
Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker
Process P55, Stack S14, Control Device C01 — 24CC Maker
Process P56, Stacks S14, S240, S250, Control Device C01 — 25 Maker
The 22 Maker (P30), 21 Maker (P31), 24CC Maker (P55), and 25 Maker (P56) are subject to an emission standard for volatile organic compound emissions, use a control device to achieve compliance with the emission standard, and have potential pre-control device volatile organic compound emissions greater than the Part 70 major source threshold of 100 tons per year. As a result, the 22 Maker (P30), 21 Maker (P31), 24CC Maker (P55), and 25 Maker (P56) are subject to CAM requirements.

The 22 Maker (P30), 21 Maker (P31), 24CC Maker (P55), and 25 Maker (P56) are subject to the National Emission Standards for Hazardous Air Pollutants (Maximum Achievable Control Technology (MACT)) for Paper and Other Web Coating Operations in 40 CFR Part 63 Subpart JJJJ (63.3280-63.3420). The 22 Maker (P30), 21 Maker (P31), 24CC Maker (P55), and 25 Maker (P56) are not exempt from CAM requirements even though these processes are subject to a standard under s. 112 of the Clean Air Act because the Paper and Other Web Coating Operations MACT standard regulates organic hazardous air pollutant emissions, not volatile organic compound emissions.

Although the Paper and Other Web Coating Operations MACT standard does not directly regulate volatile organic compound emissions, regulating organic hazardous air pollutant emissions also regulates volatile organic compound emissions. Similarly, controlling organic hazardous air pollutant emissions using the regenerative thermal oxidizer (C01) also controls volatile organic compound emissions.

CAM requirements include operating requirements for control devices if a control device is used to demonstrate compliance. Since the Paper and Other Web Coating Operations MACT includes operating requirements for the regenerative thermal oxidizer (C01), the Paper and Other Web Coating Operations MACT is equivalent to a CAM plan and the facility will not be required to include the 22 Maker (P30), 21 Maker (P31), 24CC Maker (P55), and 25 Maker (P56) in the CAM plan. However, construction permit 11-SJZ-179 and operation permit 612023940-P10 will indicate that the CAM requirements are satisfied by meeting the Paper and Other Web Coating Operations MACT control device requirements.

Process P32, Stack S16, Control Device C03 — Coiled Web Maker

The Coiled Web Maker (P32) is subject to an emission limit for particulate matter, uses a control device to achieve compliance with the emission limit, and has potential pre-control device emissions less than the Part 70 major source threshold of 100 tons per year. As a result, the Coiled Web Maker (P32) is not subject to CAM requirements.

Process P45, Stack S36, Control Device C06 — Mineral Handling Area

The Mineral Handling Area (P45) is subject to an emission limit for particulate matter, uses a control device to achieve compliance with the emission limit, and has potential pre-control device emissions greater than the Part 70 major source threshold of 100 tons per year. As a result, the Mineral Handling Area (P45) is subject to CAM requirements. The facility will be required to submit a CAM plan within 180 days after the issuance of this permit.

Process P50, Stack S42, Control Device C07 — Thinsulate Maker

The Thinsulate Maker (P50) is subject to an emission limit for particulate matter, uses a control device to achieve compliance with the emission limit, and has potential pre-control device emissions less than the Part 70 major source threshold of 100 tons per year. As a result, the Thinsulate Maker (P50) is not subject to CAM requirements.

Process P69, Stack S69, Control Device C69 — Thinsulate Maker

The Thinsulate Maker (P69) is subject to an emission limit for particulate matter, uses a control device to achieve compliance with the emission limit, and has potential pre-control device emissions less than the Part 70 major source threshold of 100 tons per year. As a result, the Thinsulate Maker (P50) is not subject to CAM requirements. Please note that the facility is required to operate the roll filters and cartridge filter to provide additional reassurance that the particulate matter emission limit is being satisfied due to the amount of information available at the time of this review.

COMPLIANCE DEMONSTRATION MONITORING RECORDS

The following are the compliance demonstration methods for emissions units that are either new or have been updated as a result of this renewal:

Process B21, Stack S11 — 12.6 MMBtu/hr Industrial Boiler #2
Process B22, Stack S13 — 16.7 MMBtu/hr Industrial Boiler #3
Process B23, Stack S15 — 22.1 MMBtu/hr Industrial Boiler #4
Process P07, Stacks S06, S07, S09 — Abrasive Sponge Coating Process
Process P30, Stack S14, Control Device C01 — 22 Maker
Process P31, Stacks S14, S200, S210, S220, S230, Control Device C01 — 21 Maker
Process P32, Stack S16, Control Device C03 — Coiled Web Maker
Process P36, Stack S14, Control Device C01 — Pigment Mill Mix Area
Process P40, Stack S260 — Columbia Press
Process P44, Stack S34, Control Device C11 — Safety Walk Maker
Process P45, Stack S36, Control Device C06 — Mineral Handling Area
Process P50, Stack S42, Control Device C07 — Thinsulate Maker
Process P52, Stack S46, Control Device C09 — Salt Bath Parts Cleaning
Process P54, Stack S54 — Belt Making Area
Process P55, Stack S14, Control Device C01 — 24CC Maker
Process P56, Stacks S14, S230, S240, Control Device C01 — 25 Maker
Process P64, Stack S44, Control Device C04 — Mineral Coating For 21 Maker Area
Process P65, Stack S45 — 26 Maker
Process P66, Stack S49 — Urethane (MDI) Sponge Coating Process
Process P67, Stack S49, Control Device C21 — 27 Maker Coral Line
Process P68, Stack S68 — Sanding Cloth Line
Process P69, Stack S69, Control Device C69 — Thinsulate Maker
Process P270, Stack S270 — Post Cure Oven
Process P271, Stack S271 — 285 kW Emergency Diesel Generator

The compliance demonstration, monitoring, and recordkeeping requirements for these emission units have been updated as a result of this review. Please refer to the "SOURCE SPECIFIC APPLICABLE REQUIREMENTS AND EMISSION CALCULATIONS" section for all requirements.

CRITERIA FOR OPERATION PERMIT APPROVAL

For renewal of the facility's operation permit, the criteria for operation permit approval set forth in ss. 285.63 and 285.64, Wis. Stats. must be met.

The Department finds that:

1. The source will meet applicable emission limits and other requirements.

2. The source will not cause nor exacerbate a violation of an ambient air quality standard or ambient air increment.

PRELIMINARY DETERMINATION

The Wisconsin Department of Natural Resources has reviewed the application and other materials submitted by 3M Prairie du Chien for renewal of existing operation permit 612023940-P01 and hereby makes a preliminary determination that a renewed operation permit may be issued with the following Draft Applicable Limits and Draft Permit Conditions. A final decision regarding emission limits and

conditions will be made after the Department has reviewed and evaluated all comments received during the public comment period. The proposed emission limits and other proposed conditions in the Draft Permit are written in the same form that they will appear in the operation permit renewal. These proposed conditions may be changed as a result of public comments or further evaluation by the Department. The United States Environmental Protection Agency will be given the opportunity to comment on the operation permit renewal of any Part-70 source prior to the Department making a final decision on the operation permit renewal.

PERMIT FEE CALCULATION

Basic Fees.

1. Construction or replacement of a PSD or NAA minor source or the PSD or NAA minor modification of a Part 70 major source. [$7,500]		$7,500
Total Basic Fees		**$7,500**

Additional Fees

2. Analysis of two or more basic emission units. [$800 per emission unit, 14 units reviewed] (6 pre-approved projects/facility changes, Boiler #2 (B21), Boiler #3 (B22), Boiler #4 (B23), Abrasive Sponge Coating Process (P07), 22 Maker (P30), 21 Maker (P31), Coiled Web Maker (P32), Columbia Press (P40), Safety Walk Maker (P44), Mineral Handling Area (P45), Salt Bath Parts Cleaning (P52), Belt Making Area (P54), 24CC Maker (P55), 25 Maker (P56), and Mineral Coating For 21 Maker Area (P64))	21 x $800	$16,800
3. Analysis of a basic emission unit which requires an emission limit determination under s. NR 424.03(2)(c). [$600 per emission unit, 2 units reviewed] (Columbia Press (P40), Belt Making Area (P54))	2 x $600	$1,200
4. Analysis of each case-by-case determination of maximum achievable control technology (MACT), best available control technology (BACT) or lowest achievable emission rate (LAER). [$4,500 per emission unit, 3 units reviewed] (3 pre-approved projects/facility changes)	3 x $4,500	$13,500
5. Analysis of a research and test exemption determination under s. NR 406.04(1)(i), Wis. Adm. Code [$1,250 per emission unit, 1 unit reviewed] (1 pre-approved projects/facility change)	1 x $1,250	$1,250
Total Additional Fee		$32,750
Total Fee (Total Basic Fee + Total Additional Fee)		**$40,250**
TOTAL AMOUNT DUE (Total Fee)		**$40,250**