

**ANALYSIS AND PRELIMINARY DETERMINATION
FOR THE REVISION OF CONSTRUCTION PERMITS
95-SDD-048, 13-SDD-014-P21, AND 99-MDW-717-OP-P20
AND
ANALYSIS AND PRELIMINARY DETERMINATION FOR THE
OPERATION PERMIT FOR A PAPER MILL

FOR
AHLSTROM RHINELANDER LLC,
LOCATED AT
515 WEST DAVENPORT STREET,
RHINELANDER, ONEIDA COUNTY, WISCONSIN**

Operation Permit No.: 74400810A-P30
Facility ID No.: 744008100

This review was performed by the Wisconsin Department of Natural Resources, Air Management Program, in accordance with Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code.

Copies of the permit application, the department’s analysis, preliminary determination and draft permit, and other materials considered by the department when making its preliminary determination can be viewed by using the Air Permit Search Tool located at <http://dnr.wi.gov/topic/AirPermits/Search.html> or by contacting Carol Crawford at (920) 662-5445 or by e-mail at Carol.Crawford@wisconsin.gov.

Approved by: Randy Matty 07/29/2024
(Regional Supervisor or Designee) *(date)*

Prepared by: Carol V. Crawford

Peer review by: Edwards-Sawyer Effiong

Compliance review by: Quinton LeSage

Stationary source modeling by: John Roth

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1 INTRODUCTION

Sections 285.60 through 285.69, Wis. Stats. and chapters NR 405 through NR 409, Wis. Adm. Code require certain types of stationary sources that emit or may emit air contaminants to obtain air pollution control permits. The Wisconsin Department of Natural Resources (hereinafter “department”) issues air pollution control permits to new and existing sources of air pollution.

Stationary sources that are not exempt from the requirement to obtain a construction permit under ss. 285.60(2g), (3), (5m) and (6), Wis. Stats. or ch. NR 406, Wis. Adm. Code may not commence construction, reconstruction, replacement, relocation or modification unless a construction permit for the project has been issued by the department. Sources that are not exempt from the requirement to obtain an operation permit under s. NR 407.03, Wis. Adm. Code, are required to obtain or renew an air pollution control permit to continue operation. Changes made at a source of air pollution may require a revision of a previously issued permit in accordance with chs. NR 406.11 and/or NR 407.11 through NR 407.14 and NR 407.16, Wis. Adm. Code.

Owners or operators subject to air pollution control permit requirements submit the appropriate permit application(s) to the department. The applications are reviewed following the provisions set forth in ss. 285.60 to 285.67, Wis. Stats. The criteria for permit approval are outlined in s. NR 285.63, Wis. Stats. and vary depending on whether the source is major or minor and whether the source is or is proposed to be located in an attainment or nonattainment area.

Prior to issuance of an air pollution control permit, the department is required to prepare an analysis regarding the effect of the proposed construction, reconstruction, replacement or modification and/or operation of the source on ambient air quality and a make a preliminary determination on the approvability of the permit application based on the criteria in s. 285.63, Wis. Stats. This document is the department’s analysis and preliminary determination for the air pollution control permit action(s) described herein and sets forth the legal and factual basis for the draft permit conditions. The analysis is based on the information contained in the permit application(s) and any additional information requested by the department related to the emissions of air pollutants sufficient to verify which requirements are applicable to the source. The analysis explains why the application(s) should be approved, conditionally approved, or disapproved and identifies the department’s authority for the permit action(s) described herein. Any conditions for approval are contained in the draft permit prepared by the department. The conditions in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the department.

A final decision will not be made on any permit until the applicable notification, public comment and hearing requirements in ss. 285.61 and/or 285.62, Wis. Stats. and/or ss. NR 406.11 and/or NR 407.11 through NR 407.14, Wis. Adm. Code have been met.

For Part 70 operation permits, a final permit will not be issued until after the US EPA has an opportunity to review a proposed permit for 45 days. The department will provide a proposed permit to US EPA and post the start date of the US EPA 45-day review period on the Internet at <http://dnr.wi.gov/topic/AirPermits/Search.html>. Unless the US EPA objects in writing within the 45-day review period, the department will issue the final permit as proposed. 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 a Part 70 operation permit.

2 GENERAL APPLICATION INFORMATION

Owner/Operator: Ahlstrom Rhinelander LLC
515 West Davenport Street
Rhinelander, Oneida County, WI 54501-3328

Responsible Official: Daniel McGreaham, Mill Manager
515 West Davenport Street, Rhinelander, WI 54501-3328
(715) 369-4233
daniel.mcgreaham@ahlstrom-munksjo.com

Application Contact Person: Tom Emond, Manager, Environmental Control
 (715) 369-4160
 tom.emond@ahlstrom-munksjo.com

Application Submitted By: Tom Emond, Manager, Environmental Control
 (715) 369-4160
 tom.emond@ahlstrom-munksjo.com

Application submittal date: September 20, 2021

Additional Information Submitted: January 31, 2023; May 25 and 31, 2023; July 24, 2023; September 25, 2023; November 29, 2023; May 30 and 31, 2024; June 6, 17, and 24, 2024

Date of Complete Application: October 10, 2021

3 PERMIT AND SOURCE DESCRIPTION

3.1 OPERATION PERMIT RENEWAL 74400810A-P30

Permit 74400810A-P30 is the renewal of the facility’s current Title V operation permit 744008100-P22. Changes in Renewal 74400810A-P30 are described in detail in Section 5. Notable changes include:

- coal-fired boiler B26 and related material handling operations are no longer in operation;
- revisions to three construction permits (described in Section 5.2); and
- changes in formatting for New Source Performance Standards (NSPSs) and National Emissions Standards for Hazardous Air Pollutants (NESHAPs).

3.2 SOURCE DESCRIPTION

The following table shows the emissions units with significant emissions of criteria or hazardous air pollutants.

Table 1. Significant Emissions Units				
Stack, Control Device, Process	Description	Capacity	Installation/Modification Date	Construction Permit?
S08, B28	Natural gas-fired boiler with low NO _x burner and flue gas recirculation. #2 distillate oil is a back-up fuel.	280 million Btu per hour (mmBtu/hr) on natural gas; 270 mmBtu/hr on #2 fuel oil	1996	95-SDD-048
S11, B30	Natural gas-fired boiler	95 mmBtu/hr	2013	13-SDD-014
S12, B40	Natural gas-fired boiler with low NO _x burner and flue gas recirculation.	≤ 99.9 mmBtu/hr	2022	22-MMC-035
S13, C08, P30	P30: #3 paper coater. C08: Thermal oxidizer.	25 mmBtu/hr	1970	None
S20, P40	Paper machines #6, #7, #8 and #9	#6: 3.75 tons paper per hour (TPH) #7: 9.58 TPH #8: 4.17 TPH #9: 10.4 TPH	1999	99-MDW-717-OP
S16, P41	#4 Paper coater	8 mmBtu/hr	1995	None

Stack, Control Device, Process	Description	Capacity	Installation/Modification Date	Construction Permit?
S36, P42	Shark broke repulper ¹ for producing sterilizable grade stock	Unknown	April 1995	None
F96	Disinfection of intake water	Unknown	Pre-1970	None
F98	Miscellaneous natural gas-fired make-up air units and ovens, including paper machine #9, roll floor and supercalender ovens (1999)	125.4 mmBtu/hr total	Various	None
F99	Wastewater treatment	12 million gallons per day	Unknown	None
S60, P60	Heptane mix tank	425 gallons	2011	None
S61, P61	Diesel-fired emergency fire pump	110 brake horsepower	1996	None

The facility included lime storage silo P101 as a significant process in the application for Renewal 74400810A-P30. However, the storage silo's bin vent filter is considered part of the process, and therefore maximum theoretical emissions of all pollutants are less than the exemption levels in s. NR 406.04(2), Wis. Adm. Code. See the calculations for P101 in Section 5.3.6. In Renewal 74400810A-P30, Process P101 will be included with the emissions units listed under s. NR 407.05(4)(c)9., Wis. Adm. Code, and is subject to the requirements in Part II of the permit.

Stack, Control Device, Process	Description	Capacity	Installation/Modification Date	Status
S09, C06, B26	B26: Coal-fired cyclone boiler burning bituminous coal. C06: Electrostatic Precipitator (ESP)	300 million Btu per hour (mmBtu/hr)	1958	will no longer be operated
S17, P35	Silicon applicator rod cleaner	1 pound per hour (lb/hr)	1970	removed
S20, P38	Solvent cleaning on the paper machines	14 lb/hr	Unknown	To be included with paper machines (P40)
F50	Fugitive emissions from coal storage pile	Unknown	2016	to be listed as insignificant source
S32, C32, P52	Boiler flyash handling system C32: Baghouse P52 was a support process for Boiler B26.	506 pounds per hour	2007	will no longer be operated
S100, P100	DSI storage silo	6000 cubic feet	2016	will no longer be operated
S101, P101	Lime storage silo	25 tons per hour (TPH)	Unknown	to be listed as insignificant source

¹ "Broke" refers to partly or fully manufactured paper that is discarded from paper making, converting, and finishing processes.

Emissions Units, Operations and Activities Listed under s. NR 407.05(4)(c)9., Wis. Adm. Code:²

- Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.)
- Boiler, Turbine, and HVAC System Maintenance
- Pollution Control Equipment Maintenance
- Internal Combustion Engines Used for Warehousing and Material Transport
- Janitorial Activities
- Office Activities
- Convenience Water Heating
- Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood)
- Fuel Oil Storage Tanks (< 10,000 gal.) Several diesel and #2 fuel oil (50, 10, 153, and 275 gallon capacity)
- Demineralization and Oxygen Scavenging of Water for Boilers
- Purging of Natural Gas Lines
- Sanitary Sewer and Plumbing Venting
- Outdoor chemical storage tanks for: Heptane (15,373 gallons capacity), glycol ether (881 gallons capacity), soybean oil (212 gallons capacity), phosphoric acid, sulfuric acid, anhydrous ammonia, hydrated ammonia, chlorine gas
- Vehicle parking lot areas
- New warehouse sub-floor passive ventilation system
- Paper Machine #9 heat/steam vents
- Paper Machine #7 heat/steam vents, excluding size press vent
- Laboratory Activities
- 50,000 gallon #2 fuel oil storage tank
- F50 – Coal storage pile
- P101 – Lime storage silo

Additional information about the emissions units covered by the renewed operation permit can be found in Section 5.3.

The following permits, exemptions, and orders have been issued to the facility:

Permit/Order/Exemption Number	Issued/Approved	Sources covered and description³	Status
91-IRS-006 ⁴	03/11/1991	Research and Testing Exemption. Allow facility to burn pelletized waste treatment sludge.	Authority to test expired 45 days after startup.
Consent Order #AM-94-600	6/12/1994	Allow facility to operate a temporary natural gas-fired boiler	Expired on July 3, 1994

² The emissions units, operations and activities listed here are those identified in s. NR 407.05(4)(c)9., Wis. Adm. Code that are not otherwise include in Part I of this permit. These units, operations and activities are subject to all applicable requirements including those listed in Part II.

³ Total Facility refers to all existing units at the facility at the time of issuance of the permit listed.

⁴ In the previous renewal, this exemption was called 90-IRS-006. The actual number on the exemption documents is 91-IRS-006.

Table 3. Permit Actions/Orders Summary Table			
Permit/Order/Exemption Number	Issued/Approved	Sources covered and description³	Status
94-BAP-707	08/17/1994	Allow facility to operate a temporary natural gas-fired boiler, S21, B27 – now gone	Included in 744008100-P01
Consent Order #AM-94-38	8/22/1994	SO ₂ SIP compliance order	Included in 744008100-P01
94-NEB-000-EXM ⁵	12/30/1994	Exemption for solventless paper coater #4, P41	Included in 744008100-P01
95-SDD-048	09/19/1995	Install S08, B28: 280 million Btu per hour (mmBtu/hr) natural gas/oil-fired boiler	Included in 744008100-P01
99-NEB-710	08/19/1999	Exemption for natural gas-fired air flotation dryers on two existing supercalenders	Included in 744008100-P01
99-MDW-717	12/13/1999	Modification of four paper machines, P40	Included in 744008100-P01
99-MDW-717-OP	07/12/2004	ConOp for 99-MDW-717	Included in 744008100-P01
744008100-P01	12/21/2004	Original Title V permit for Total Facility	Renewed by 744008100-P10
05-DCF-023	Withdrawn	---	Not issued
06-SDD-330	12/06/2006	Exemption to install baghouse C99 and booster fan on the exhaust from Boilers B20-B23	Included in 744008100-P10
07-POY-155	08/15/2007	Modification of the existing ash baghouse, P52, C32, to accept emissions from the new stoker boiler baghouse, C99.	Included in 744008100-P10
10-JGB-139-EXM	09/14/2010	Research and Testing Exemption to test burning of paper pellets in Boilers B20-B23	Expired 9/14/2011
10-POY-210	Withdrawn	---	Not issued
744008100-P02	11/08/2010	Add conditions of Permit 06-SDD-330	Renewed by 744008100-P10
744008100-P03	11/08/2010	Add conditions of Permit 07-POY-155	Renewed by 744008100-P10
744008100-P04	11/08/2010	Change facility name	Renewed by 744008100-P10
744008100-P10	11/08/2010	Title V Renewal for Total Facility	Revised by 744008100-P15
744008100-P11	Withdrawn	Associated with 10-POY-210, which was withdrawn	Not issued
744008100-P12	Not issued	Revision to add new heptane mix tank	Addressed by 744008100-P20
13-SDD-014	09/18/2013	Replacement of up to five existing coal fired boilers with up to three natural gas boilers	Included in 744008100-P20

⁵This number was assigned to this exemption in order to enter it into the WARP database.

Table 3. Permit Actions/Orders Summary Table			
Permit/Order/Exemption Number	Issued/Approved	Sources covered and description³	Status
744008100-P13	Not issued	Add requirements of permit 13-SDD-014 to Title V permit	Addressed by 744008100-P20
744008100-P14	Not issued	Facility name change	Addressed by 744008100-P15
14-JGB-095-EXM	07/07/2014	Research and testing exemption to test use of sorbent injection to control acid gases and mercury	Expired July 7, 2015
744008100-P15	12/14/2015	Boiler MACT extension approval	Renewed by 744008100-P20
Administrative Order AM-15-01	01/14/2016	SIP consent order for attaining and maintaining the 2010 1-hour SO ₂ NAAQS in the Oneida County SO ₂ nonattainment area	Included in 744008100-P20
15-DMM-128	07/11/2016	Construct dry sorbent injection and an activated carbon system for Boiler B26	Included in 744008100-P20
744008100-P16	Not issued	Revision to reflect installation of dry sorbent injection (DSI) system under permit 15-DMM-128	Addressed by 744008100-P20
99-MDW-717-OP-P20	03/21/2017	Revision to correct and clarify compliance demonstration and recordkeeping requirements	Included in 744008100-P20
744008100-P20	03/21/2017	Title V Renewal for Total Facility	Revised by 744008100-P21
13-SDD-014-P21	12/21/2017	Revision to change compliance demonstration requirements for Boiler B30, eliminate references to Boiler B31, and clarify permit language	Included in 744008100-P21
744008100-P21	12/21/2017	Revision to remove outdated language and add Subpart DDDDD emission limits	Revised by 744008100-P22
744008100-P22	01/29/2019	Administrative revision to change the facility name.	Renewed by 74400810A-P30
744008100-P23	Not issued	Revision to update the name of the Responsible Corporate Official	Addressed by 74400810A-P30
15-DMM-128-R1	03/25/2021	Revision with permit conditions to ensure attainment of 1-hour SO ₂ NAAQS [Certain conditions incorporated into Wisconsin's SIP as 40 CFR s. 52.2570(144)(i)]	Addressed by 74400810A-P30
74400810A-P24	Not issued	Revise sulfur dioxide limit for Boiler B26 from 3 pounds per mmBtu to 2.4 pounds per mmBtu	Addressed by 74400810A-P30
74400810A-P25	Not issued	Revision to update the name of the Responsible Corporate Official	Addressed by 74400810A-P30
22-MMC-035	05/24/2022	Construct natural gas-fired boiler B40	Included in 74400810A-P30
74400810A-P26	Not issued	Add conditions of 22-MMC-035	Addressed by 74400810A-P30

Permit/Order/Exemption Number	Issued/Approved	Sources covered and description ³	Status
74400810A-P27	Not issued	Change location of Boiler B40	Addressed by 74400810A-P30
99-MDW-717-OP-P20-R1	To be determined	Change compliance demonstration requirements for VOC emissions from Process P40	Included in 74400810A-P30
74400810A-P30	To be determined	Title V Renewal for Total Facility	Active – primary enforcement document when issued

4 APPLICABILITY OF FEDERAL REGULATIONS: NSPS, NESHAP, and CAM

General NSPS, NESHAP, and Compliance Assurance Monitoring (CAM) applicability is presented in this section. Section 5 contains detailed presentations of the applicable requirements of individual NSPSs and NESHAPs.

4.1 New Source Performance Standards (NSPS): 40 CFR Part 60

New Source Performance Standards have been established for a variety of emissions units. These standards apply to units that were constructed, modified or reconstructed after the applicability date in the standard. This section presents the applicability of NSPS Subparts to emissions units at the facility.

Stack, Control Device, Process	Description	Construction/Modification Date	Applicable NSPS	Reason NSPS applies/does not apply
S08, B28	Natural gas-fired boiler with distillate oil as a back-up fuel, 280 mmBtu/hr	1996	Subpart Db	B28 is a steam generating unit that commenced construction after June 19, 1984 and has a heat input capacity greater than 100 mmBtu/hr.
S11, B30	Natural gas-fired boiler, 95 mmBtu/hr	2013	Subpart Dc	B30 is a steam generating unit that commenced construction after June 9, 1989 and has a heat input capacity less than 100 mmBtu/hr but greater than 10 mmBtu/hr.
S12, B40	Natural gas-fired boiler, ≤ 99.9 mmBtu/hr	2022	Subpart Dc	B40 is a steam generating unit that commenced construction after June 9, 1989 and has a heat input capacity less than 100 mmBtu/hr but greater than 10 mmBtu/hr.
S13, C08, P30	P30: #3 paper coater. C08: Thermal oxidizer. 25 mmBtu/hr	1970	None	No applicable NSPS
S20, P40	Paper machines #6, #7, #8 and #9 #6: 3.75 TPH #7: 9.58 TPH #8: 4.17 TPH #9: 10.4 TPH	1999	None	No applicable NSPS

Stack, Control Device, Process	Description	Construction/Modification Date	Applicable NSPS	Reason NSPS applies/does not apply
S16, P41	#4 Paper coater	1995	Subpart RR	P41 began construction or modification after December 30, 1980 and is used in the manufacture of pressure sensitive tape and label materials.
S36, P42	Shark broke repulper for producing sterilizable grade stock	April 1995	None	No applicable NSPS
F96	Disinfection of intake water	Pre-1970	None	No applicable NSPS
F98	Miscellaneous natural gas-fired make-up air units and ovens, including paper machine #9, roll floor and supercalender ovens (1999)	various	None	Regardless of the date of construction or modification, or whether any units meet the Subpart Dc definition of “steam generating unit”, Subpart Dc does not apply to these units because each is individually rated at less than 10 million Btu per hour.
F99	Wastewater treatment, 12 million gallons per day	Unknown	None	Regardless of the date of construction or modification, Subpart O does not apply to F99 because it is not a municipal sewage treatment plant and does not include an incinerator that combusts municipal sewage sludge.
S60, P60	Heptane mix tank, 425 gallons	2011	None	Subpart Kb does not apply to P60 because its capacity is less than 75 cubic meters, and because it is not a storage vessel.
S61, P61	Diesel-fired compression ignition emergency fire pump, 110 brake horsepower	1996	None	Subpart IIII does not apply to P61 because it was constructed before July 11, 2005 and was not modified after that time.

4.2 National Emissions Standards for Hazardous Air Pollutants (NESHAP): 40 CFR Part 63

Stack, Control Device, Process	Description	Construction/Modification Date	Applicable NESHAP	Reason NESHAP applies/does not apply
S08, B28	Natural gas-fired boiler with distillate oil as a back-up fuel, 280 mmBtu/hr	1996	Subpart DDDDD	B28 is a steam generating unit at a major source of HAP emissions.
S11, B30	Natural gas-fired boiler, 95 mmBtu/hr	2013	Subpart DDDDD	B30 is a steam generating unit at a major source of HAP emissions.
S12, B40	Natural gas-fired boiler, ≤ 99.9 mmBtu/hr	2022	Subpart DDDDD	B40 is a steam generating unit at a major source of HAP emissions.
S13, C08, P30	P30: #3 paper coater. C08: Thermal oxidizer. 25 mmBtu/hr	1970	Subpart JJJJ	P30 is a web coating line at a major source of HAP emissions.

Table 5. Applicability of NESHAPs to Emissions Units				
Stack, Control Device, Process	Description	Construction/Modification Date	Applicable NESHAP	Reason NESHAP applies/does not apply
S20, P40	Paper machines #6, #7, #8 and #9 #6: 3.75 TPH #7: 9.58 TPH #8: 4.17 TPH #9: 10.4 TPH	1999	None	No applicable NESHAP
S16, P41	#4 Paper coater	1995	Subpart JJJJ	P41 is a web coating line at a major source of HAP emissions.
S36, P42	Shark broke repulper for producing sterilizable grade stock	April 1995	None	No applicable NESHAP
F96	Disinfection of intake water	Pre-1970	None	No applicable NESHAP
F98	Miscellaneous natural gas-fired make-up air units and ovens, including paper machine #9, roll floor and supercalender ovens (1999)	various	None	These units are not process heaters as defined in Subpart DDDDD.
F99	Wastewater treatment, 12 million gallons per day	Unknown	None	Subpart VVV does not apply to F99 because it is not a publicly owned treatment works (POTW).
S60, P60	Heptane mix tank, 425 gallons	2011	None	No applicable NESHAP
S61, P61	Diesel-fired compression ignition emergency fire pump, 110 brake horsepower	1996	Subpart ZZZZ	P61 is a reciprocating internal combustion engine (RICE) located at a major source of HAP emissions.

4.3 Compliance Assurance Monitoring (CAM): 40 CFR Part 64

Part 64 of 40 CFR requires certain pollutant-specific emissions units at a major source required to obtain a Part 70 permit to comply with CAM requirements.

Pollutant-specific emissions units (PSEUs) are subject to CAM if:

- (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant other than those exempted under paragraph (b)(1) of section 64.2 of 40 CFR.
- (2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the amount required for a source to be classified as a major source (100 tons per year for criteria pollutants, 10 tons per year for each HAP, 25 tons per year for all HAPs combined).

“Regulated air pollutants” for the purposes of CAM has the same meaning as provided in 40 CFR s. 70.2 and means the following:

- (1) Nitrogen oxides or any volatile organic compounds;
- (2) Any pollutant for which a national ambient air quality standard has been promulgated;
- (3) Any pollutant that is subject to any standard promulgated under section 111 of the Act;
- (4) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or
- (5) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Act, including sections 112(g), (j), and (r) of the Act, including the following:

- (i) Any pollutant subject to requirements under section 112(j) of the Act. If the Administrator fails to promulgate a standard by the date established pursuant to section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Act; and
- (ii) Any pollutant for which the requirements of section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement.

40 CFR s. 64.2(b)(1) exempts certain emission limitations or standards from CAM requirements for the pollutant regulated by the standard. Exempt emission limitations or standards include:

- Emission limitations or standards proposed by US EPA after November 15, 1990 pursuant to section 111 or 112 of the Clean Air Act. Section 111 includes NSPSs. Section 112 includes NESHAPs.
- Title VI stratospheric ozone protection requirements
- Acid Rain Program requirements
- Limitations or standards under an emissions trading program promulgated under the CAA that allows for trading emissions within a source or between sources.
- Emissions caps that meets the requirements specified in 40 CFR s.70.4(b)(12).
- Emission limitations or standards for which a Part 70 permit specifies a continuous compliance determination method, as defined in 40 CFR s. 64.1, with the exceptions in 40 CFR s. 64.2(b)(vi)

As stated above, CAM requirements only apply to an emission unit if the unit uses a control device to achieve compliance with an emission limit or standard for a regulated air pollutant [40 CFR s.64.2(a)(2)]. Current permit 744008100-P22 contains CAM requirements for the following emissions units, which are the only emissions units at the facility that use a control device to comply with an emission limit:

- Boiler B26, coal-fired boiler - control device C06, electrostatic precipitator for PM and PM₁₀ control
- Process P30, paper coater - control device C08, thermal oxidizer for VOC control
- Process P52, boiler flyash handling – control device P32, baghouse for PM and PM₁₀ control

Boiler B26 and Process P52 are no longer operated; they ceased operation in the second quarter of 2022. Process P30 will be the only process with CAM requirements in Renewal 74400810A-P30. The following table shows CAM applicability for Process P30.

Pollutant	Uses control device to achieve compliance? [s. 64.2(a)(2)]	Potential pre-control device emissions, TPY	Potential pre-control device emissions ≥ major source threshold? [s. 64.2(a)(3)]	Applicable emission limit or standard [s. 64.2(a)(1)]	Limit or standard exempt under s. 64.2(b)(1)?	Subject to CAM?
PM	No	---	---	---	---	No
SO ₂	No	---	---	---	---	No
NO _x	No	---	---	---	---	No
VOC	Yes	1,165	Yes	2.9 lb/gallon coating, excluding water [s. NR 422.07(2), wis. Adm. Code]	No	Yes

Pollutant	Uses control device to achieve compliance? [s. 64.2(a)(2)]	Potential pre-control device emissions, TPY	Potential pre-control device emissions \geq major source threshold? [s. 64.2(a)(3)]	Applicable emission limit or standard [s. 64.2(a)(1)]	Limit or standard exempt under s. 64.2(b)(1)?	Subject to CAM?
CO	No	---	---	---	---	No
Federal HAPs	Yes	1,165	Yes	40 CFR s. 63.3320(b)	Yes – s. 64.2(b)(1)(i), limitation proposed after 11/115/1990 under s. 112 of the Clean Air Act	No

5 EMISSIONS CALCULATIONS, APPLICABLE REQUIREMENTS, AND CHANGES IN THIS RENEWAL

This section provides information describing how air pollution emissions from the source have been determined. It describes the source of the emission estimates, references emission factors and equations used and/or describes the engineering judgement used to determine emissions. Emission summary tables are included with references to supporting calculations and/or the source of emission information. As required by 40 CFR s. 70.5(c)(3)i., emission estimates sufficient to verify which requirements are applicable to the source are included in this analysis. This information provides the department's legal and factual basis for how the emission estimates support the draft permit conditions. As required by 40 CFR s. 70.5(c)(3)i., these emission estimates are sufficient to verify which requirements are applicable to the source.

This section also describes the applicable requirements⁶ as they apply to the emissions units at the facility. It includes emission unit and pollutant specific applicable requirements and associated compliance demonstration methods. Some pollutants subject to regulation under the Act do not currently have specific applicable emission limitations or standards, however they are considered when determining source status under programs, such as Part 70 and PSD, and when determining the applicability of requirements that are based on source status, such as CAM. One such pollutant is PM_{2.5}. Based on definitions in ss. NR 400.02(123m) and (124), Wis. Adm. Code, direct PM_{2.5} emissions cannot exceed PM₁₀ emissions. Since PM₁₀ and PM_{2.5} have the same major source thresholds, emission estimates of PM₁₀ are sufficient for determining Part 70 and PSD source status and CAM applicability with respect to both PM_{2.5} and PM₁₀. When determining Part 70 source status for particulate matter, a stationary facility is a Part 70 major source if it emits or has the potential to emit, 100 tpy or more of PM₁₀ per s. NR 407.02(4)(b), Wis. Adm. Code.

Operation permits are required to contain compliance testing, monitoring, reporting and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. Where an applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring, periodic monitoring or testing sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit shall be included in the operation permit. Monitoring may consist of recordkeeping sufficient to meet this requirement.

The current operation permit contains compliance demonstration methods, monitoring and recordkeeping requirements for existing emissions units. Some standards such as NSPS and NESHAP include compliance demonstration, monitoring and recordkeeping requirements within the standard. The compliance demonstration,

⁶ "Applicable requirement" is defined in s. NR 400.02(26), Wis. Adm. Code and 40 CFR 70.2, and lists all of the types of requirements which are considered applicable requirements for the purpose of inclusion in an operation permit.

monitoring and recordkeeping requirements that are part of a standard are included in the draft renewed operation permit, as applicable. The tables of Applicable Requirements in this section contain brief descriptions of the compliance demonstration methods used for each pollutant. This section also describes the changes being made in the permit with this renewal.

5.1 GENERAL CHANGES

In addition to the specific changes described in this document, the following changes are being made as part of this operation permit renewal, where necessary:

- Format changes, and minor changes to correct typos, citations, and cross references and to clarify language where necessary.
- Addition of less stringent emissions limits that were omitted from the previous permits. In previous operation permits, when a process was subject to more than one emission limit for a particular pollutant, the permit often included only the most stringent emission limit and referenced all the applicable limits in the parentheses at the end of the permit condition. Current department policy is to include all applicable emission limits in operation permits. This change will be made in this renewal where needed and may apply to any emissions unit that has a particulate matter emission limit.
- Removal of permit conditions specifying stack diameters. It is no longer the department’s policy to include stack diameters as a condition of Part I of any permit.
- Removal of standard conditions from Part I that are included in Part II.
- Addition of previously issued construction permit numbers that may have been omitted from the current operation permit, in the permit condition citations in the renewed operation permit, where appropriate. Construction permit requirements are defined as applicable requirements in s. NR 400.02(26), Wis. Adm. Code and should be included as an authority for a permit condition if that condition is contained in a construction permit.

The above changes are not modifications and do not require a construction permit revision because they do not conflict with any construction permit condition.

5.2 REVISIONS TO PREVIOUSLY ISSUED CONSTRUCTION PERMITS

The changes described in this section are not modifications as defined in section NR 400.02(99), Wis. Adm. Code. A modification means any physical change in, or change in the method of operation of, a stationary source that increases the amount of emissions of an air contaminant or that results in the emission of an air contaminant not previously emitted. A modification does not include any of the changes identified in section NR 406.04(4), Wis. Adm. Code. These changes are not modifications because the permittee is not making a physical change or a change in the method of operation that results in an increase in the amount of emissions of an air contaminant or that results in the emission of an air contaminant not previously emitted.

5.2.1 Revision of Permit 95-SDD-048

NSPS Subpart Db requirements for Boiler B28 are consolidated into their own section I.A.6., separate from other visible emissions, sulfur dioxide, and nitrogen oxides requirements. Citations to Permit 95-SDD-048 are removed from the code citation sections for NSPS requirements. The following table shows the conditions from Permit 95-SDD-048 that are removed with this Revision 95-SDD-048-R1, while remaining in the permit as NSPS requirements.

Table 7. Conditions removed in Revision 95-SDD-048-R1	
Condition number in 95-SDD-048	Condition numbers in 744008100-P22, and Notes
Specific Condition #4: 40 CFR s. 60.49b(r)1.	I.B.3.c.(2) In Renewal 74400810A-P30, this requirement will be in Condition I.A.6.a.(60.49b).

Table 7. Conditions removed in Revision 95-SDD-048-R1	
Condition number in 95-SDD-048	Condition numbers in 744008100-P22, and Notes
Specific Condition #5: remove reference to monitoring NO _x emissions on a 30-day average basis as required by 40 CFR s. 60.44b(i)	I.B.5.a.(2)(d) Other portions of Specific Condition #5 are retained, since they specify monitoring to show compliance with the NO _x BACT limit. The retained conditions in Renewal 74400810A-P30 are I.B.5.a.(2)(a) through (c). In Renewal 74400810A-P30, the requirement from s. 60.44b(i) will be in Condition I.A.6.a.(60.44b).
Specific Condition #6: 40 CFR ss. 60.48b(a) and (j)(7)	I.B.2.b.(2) and (3) In Renewal 74400810A-P30, the facility’s site-specific opacity monitoring plan will be included with Condition I.A.6.a.(60.48b)(1).
Specific Condition #11: 40 CFR ss. 60.49b(a), (b), (d), (f), (g), (h), (i), (j), and (r)	I.B.2.c.(2), (3), and (4) I.B.3.c.(2) and (4) I.B.5.c.(4), (5), and (6) In Renewal 74400810A-P30, these requirements will be in Condition I.A.6.a.(60.49b).

Note that at the time permit 95-SDD-048 was issued, Subpart Db required submission of quarterly excess emission reports. Subpart Db currently requires submission of semiannual excess emission reports. This change is reflected in Section I.A.6. of Renewal 74400810A-P30.

5.2.2 Revision of Permit 13-SDD-014-P21

NESHAP Part 63, Subpart DDDDD requirements for Boiler B30 are placed in Table WWW. Citations to Permit 13-SDD-014-P21 are removed from the code citation sections for NESHAP requirements. The following table shows the conditions from original Permit 13-SDD-014 that are removed with this Revision 13-SDD-014-P21, while remaining in the permit as NESHAP requirements in Table WWW.

Table 8. Conditions removed in Revision 13-SDD-014-P21-R1	
Condition numbers in original Permit 13-SDD-014	Condition numbers in current permit 744008100-P22
I.P.6.a.(1), I.P.6.b.(1), and I.P.6.c.(1)	I.N.6.a.(1), I.N.6.b.(1), and I.N.6.c.(1)

5.2.3 Revision of Permit 99-MDW-717-OP-P20

In current permit 744008100-P22, Condition I.F.1.b.(2) reads as follows:

“(2) The permittee shall prepare and retain an NR 424 Compliance Plan that describes current operating practices as required by Condition F.1.a.(1) for the paper machines that could impact air emissions. This plan shall be updated as necessary if operating practices are changed and submitted to the Department for review at that time. [s. NR 407.09(4)(a)3., Wis. Adm. Code; 99-MDW-717-OP-P20]”

Permits need to include all applicable requirements and not depend for compliance on a plan that is not included in the permit. The operating practices in the facility’s NR 424 compliance plan include a review by the facility’s Environmental Department of all proposed papermaking and machine cleaning chemicals prior to purchase. In Renewal 74400810A-P30, revised Condition I.E.1.b.(2) will read as follows:

“(2) The permittee shall keep records of Environmental Department review and approval of each new papermaking additive or paper machine cleaning material. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 99-MDW-717-OP-P20-R1]”

This condition requires the operating practices that the facility currently uses for VOC emissions from Process P40: the review and approval by the Environmental Department of any new papermaking and cleaning materials that the facility is considering.

5.3 PROCESS-SPECIFIC EMISSIONS CALCULATIONS, APPLICABLE REQUIREMENTS, AND CHANGES IN RENEWAL 74400810A-P30

This section presents emissions calculations, applicable requirements, compliance demonstration methods, and changes in Renewal 74400810A-P30 for each emissions unit. For emissions units subject to a NSPS or NESHAP, this section includes an applicability table with a detailed analysis of the applicable requirements in the standard.

5.3.1 Power Boilers

The following tables present NSPS and NESHAP applicability for the facility’s boilers. Following the NSPS and NESHAP tables, this section includes emissions calculations, applicable requirements, and renewal changes for each boiler.

Table 9. Federal Standard Applicability: Subpart Db	
NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]	
Affected Source: Boiler B28, Stack S08: — Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NSPS Section/Requirement	Applicability Description
(1) Operating Requirements	There are no requirements limiting operation of B28 to avoid applicability of any sections of Subpart Db.
(60.40b) <u>Applicability and designation of authority:</u>	(a) B28 is a steam generating unit that commenced construction after June 19, 1984 and has a heat input capacity greater than 100 mmBtu per hour. Therefore, B28 is subject to the applicable requirements of Subpart Db. (b) does not apply because B28 commenced construction after June 19, 1986. (c) – (e) do not apply because B28 does not meet the applicability requirements of Part 60, Subparts J, Ja, E, or Da. (f) does not apply because B28 is a new steam generating unit under Subpart Db, not an existing one. (g) concerns delegation of authority and does not contain any applicable requirements for B28. (h) and (i) do not apply because B28 does not meet the applicability requirements for Part 60, Subparts Ea, Eb, AAAA, CCCC, or KKKK. (j) B28 is exempt from Part 60, Subpart D under this section because it commenced construction after June 19 1986. (k) and (l) do not apply because B28 does not meet the applicability requirements for Part 60, Subpart Cb, BB, or BBBB. (m) does not apply because B28 is not a temporary boiler.
(60.41b) <u>Definitions:</u>	Terms used in 40 CFR Part 60, Subpart Db and section I.A.6. of the draft permit have the meaning given them in the Clean Air Act, 40 CFR Part 60 Subpart A (General Provisions), and 40 CFR s. 60.41b.
(60.42b) <u>Standard for Sulfur Dioxide (SO₂):</u>	(a) applies because B28 combusts oil and commenced construction and last modification before February 28, 2005. The applicable SO ₂ limit is 0.20 pound per million Btu. (b) does not apply because B28 does not burn coal refuse.

Table 9. Federal Standard Applicability: Subpart Db

NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]

Affected Source:

Boiler B28, Stack S08:— Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NSPS Section/Requirement	Applicability Description
	<p>(c) does not apply because B28 does not use an emerging technology to control SO₂ emissions.</p> <p>(d) does not apply because B28 does not combust coal, and does not combust oil other than very low sulfur oil.</p> <p>(e) This section states that compliance with emission limits, fuel oil sulfur limits, and/or percent reduction requirements is determined on a 30-day rolling average basis. However, s. 60.45b(j) states that the owner of an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO₂ standard is not subject to the compliance requirements of s. 60.45b (which include the requirement to determine a new 30-day average SO₂ emission rate after each steam generating unit operating day), if they obtain fuel receipts as described in s. 60.49b(r). B28 combusts only very low sulfur oil and natural gas. Therefore, B28 is not required to calculate 30-day rolling average sulfur dioxide emissions.</p> <p>(f) does not apply because B28 does not meet the criteria in s. 60.42b(f)(1) [annual capacity factor limited to 10 percent or less], and ss. 60.42b(f)(2) and (3) [does not combust any fuel other than very low sulfur oil]. B28 does not meet s. 60.42b(f)(3) because it burns natural gas in addition to very low sulfur oil.</p> <p>(g) applies and is included in the draft permit. This section states that the SO₂ emission limits apply at all times, including periods of startup, shutdown, and malfunction.</p> <p>(h) does not apply because B28 does not use fuel pretreatment to reduce SO₂ emissions.</p> <p>(i) does not apply because B28 does not have a SO₂ control system.</p> <p>(j) applies because the oil combusted by B28 meets the definition of very low sulfur oil. Because B28 burns very low sulfur oil, the percent reduction requirements in Subpart Db do not apply. The facility demonstrates that the oil meets the definition of very low sulfur oil by maintaining fuel records as specified in ss. 60.42b(j)(2) and 60.49b(r).</p> <p>(k) does not apply because B28 was constructed and last modified before February 28, 2005.</p>
<p>(60. 43b) <u>Standard for Particulate Matter (PM):</u></p>	<p>(a) does not apply because B28 does not burn coal.</p> <p>(b) does not apply because B28 does not use a conventional or emerging technology to reduce SO₂ emissions.</p> <p>(c) does not apply because B28 does not burn wood.</p> <p>(d) does not apply because B28 does not burn municipal-type solid waste.</p> <p>(e) does not apply because B28 does not burn coal, wood, or municipal-type solid waste.</p> <p>(f) The opacity limit of 20% applies to B28 because it burns oil and does not have a particulate matter continuous emissions monitoring system (PM CEMS).</p> <p>(g) applies with respect to opacity because B28 is subject to the opacity limit in s. 60.43b(f).</p> <p>(h) does not apply because B28 was constructed before February 28, 2005 and was not reconstructed or modified after that time.</p>

Table 9. Federal Standard Applicability: Subpart Db

NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]

Affected Source:

Boiler B28, Stack S08:— Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NSPS Section/Requirement	Applicability Description
(60.44b) <u>Standard for Nitrogen Oxides (NO₂):</u>	<p>(a) applies because B28 combusts oil and natural gas. The exemption in s. 60.44b(k) does not apply because B28 has an overall heat input capacity greater than 250 mmBtu per hour. The limit in s. 60.44b(l) does not apply because B28 commenced construction before July 9, 1997. B28 has a low heat release rate and burns only natural gas and distillate oil. Therefore, the applicable NO_x limit is the limit in s. 60.44b(a)(1)(i): 0.10 pound per million Btu.</p> <p>(b) does not apply because B28 does not burn fuels that have different NO_x limits. Distillate oil and natural gas are subject to the same NO_x limit of 0.10 pound per million Btu for boilers with a low heat release rate.</p> <p>(c) does not apply because B28 does not burn fuels other than distillate oil and natural gas.</p> <p>(d) does not apply because B28 does not combust any solid fuels.</p> <p>(e) does not apply because B28 does not burn byproduct/waste.</p> <p>(f) does not apply because B28 does not burn byproduct/waste, and therefore is not required to comply with the emission limit in s. 60.44b(e).</p> <p>(g) does not apply because B28 does not combust hazardous waste.</p> <p>(h) applies and is included in the draft permit.</p> <p>(i) applies and is included in the draft permit.</p> <p>(j) does not apply because B28 does not have an annual capacity factor of 10 percent or less for natural gas and distillate oil.</p> <p>(k) does not apply because B28 has a heat input capacity greater than 250 mmBtu per hour.</p> <p>(l) does not apply because B28 commenced construction before July 9, 1997.</p>
(60.45b) <u>Compliance and Performance Test Methods and Procedures for Sulfur Dioxide:</u>	<p>(a) applies and is included in the draft permit. The language about coke oven gas does not apply because B28 does not burn coke oven gas.</p> <p>(b) – (i) do not apply per s. 60.45b(j) because B28 only combusts very low sulfur oil and natural gas.</p> <p>(j) applies and is included in the draft permit. This section states that an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO₂ standard is not subject to the compliance and performance testing requirements in s. 60.45b if the owner or operator obtains fuel receipts under s. 60.49b(r).</p> <p>(k) applies because B28 demonstrates compliance with s. 60.42b(j). This section requires the facility to follow the applicable procedures in s. 60.49b(r).</p>
(60.46b) <u>Compliance and Performance Test Methods and Procedures for Particulate Matter and Nitrogen Oxides:</u>	<p>(a) applies and is included in the draft permit.</p> <p>(b) applies and is included in the draft permit, except that the reference to s. 60.46b(i) does not apply because B28 is not subject to the emission limits in ss. 60.43b(a)(4) or (h)(5).</p> <p>(c) applies and is included in the draft permit.</p> <p>(d) The test methods for particulate matter in ss. 60.46b(d)(1) through (6) do not apply because B28 is not subject to any PM emission limits under s. 60.43b. The test method in</p>

Table 9. Federal Standard Applicability: Subpart Db

NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]

Affected Source:

Boiler B28, Stack S08:— Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NSPS Section/Requirement	Applicability Description
	<p>s. 60.46b(d)(7) for determining opacity does apply because B28 is subject to the opacity limit in s. 60.43b(f). (e) and (e)(1) and (3) apply and are included in the draft permit. These sections specify compliance and performance test methods for nitrogen oxides. (e)(2) does not apply because B28 does not combust coal or residual oil. (e)(4) does not apply because B28 has a heat input capacity greater than 250 mmBtu per hour. (e)(5) does not apply because B28 does not combust residual oil. (f) does not apply because B28 is not a duct burner used in a combined cycle system. (g) - (h) do not apply because ss. 60.44b(j) and (k) do not apply to B28. (i) - (j) do not apply because B28 is not subject to any <u>PM</u> emission limits under s. 60.43b.</p>
(60.47b) <u>Emission Monitoring for Sulfur Dioxide:</u>	<p>(a) does not apply to B28 per s. 60.47b(f), because B28 combusts very low sulfur oil. (b) – (e) do not apply because s. 60.47b(a) does not apply. (f) applies because B28 combusts very low sulfur oil. B28 is not subject to emission monitoring requirements using a CEMS because the facility maintains fuel records as described in s. 60.49b(r).</p>
(60.48b) <u>Emission Monitoring for Particulate Matter and Nitrogen Oxides:</u>	<p>(a) B28 burns only liquid or gaseous fuels with potential SO₂ emissions rates of 0.060 pound per MMBtu or less, and does not burn residual oil. The distillate oil burned in B28 is limited to a sulfur content of 0.05%. B28 has a site-specific monitoring plan for opacity that was approved by the department in a letter dated September 21, 1995.. Therefore, per ss. 60.48b(j)(7) and 60.48b(l), B28 is not required to have a continuous opacity monitoring system (COMS). The opacity monitoring methods outlined in s. 60.48b(a) do not apply to B28. The site-specific monitoring plan for B28 is discussed under s. 60.48b(l) below. (b) – (d) apply and are included in the draft permit. These sections require installation and operation of a NO_x CEMS, recording of data, and calculation of average NO_x emission rates in pounds per mmBtu. The facility complies with the option in s. 60.48b(b)(1) instead of the option in s. 60.48b(b)(2). (e) applies and is included in the draft permit. (e)(1) does not apply because B28 does not burn coal, wood, or municipal-type solid waste. (e)(2)(i): does not apply because the facility has used the method in s. 60.48b(e)(2)(ii) to establish an alternative span value for nitrogen oxides. (e)(2)(ii) applies because the facility has determined an alternative span value for nitrogen oxides. (e)(3) The second sentence of this section applies because the facility has used the alternative method of determining the span value in 40 CFR Part 75, as specified in s. 60.48b(e)(2)(ii). (f) applies and is included in the draft permit.</p>

Table 9. Federal Standard Applicability: Subpart Db

NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]

Affected Source:

Boiler B28, Stack S08:— Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NSPS Section/Requirement	Applicability Description
	<p>(g) does not apply because B28 has a heat input capacity greater than 250 mmBtu per hour.</p> <p>(h) does not apply because B28 is not a duct burner.</p> <p>(i) does not apply because ss. 60.44b(j) and (k) do not apply to B28. These sections apply to boilers that are limited to an annual capacity factor of 10% or less, which is not the case for B28.</p> <p>(j): This section specifies situations where boilers subject to s. 60.43b(f) are not required to install or operate a COMS. Section 60.48b(j)(7) applies to B28 because it burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the department. Other parts of s. 60.48b(j) do not apply and are not included.</p> <p>(k) does not apply because the PM limits in s. 60.43b do not apply to B28.</p> <p>(l) applies because B28 burns only natural gas and distillate oil with a potential sulfur dioxide emission rate of less than 0.060 lb/mmBtu, and operates according to a site-specific monitoring plan. The site-specific monitoring plan requires the facility to do the following:</p> <ul style="list-style-type: none"> - conduct 18 minutes of visible emissions observations using USEPA Method 9, whenever oil is burned in B28; - record the highest 6-minute average opacity observed during the 18 minutes; and - summarize visible emissions readings in a quarterly report for any quarter that oil is burned in B28.
<p>(60.49b) <u>Reporting and Recordkeeping Requirements:</u></p>	<p>(a) is not included because the date of initial startup has passed.</p> <p>(b) applies and will be included for PM and NO_x because it is not known if the facility submitted initial performance test results for PM (opacity standard) and NO_x. Boiler B28 was not subject to the initial performance test requirements for SO₂ because it burns only natural gas and very low sulfur oil. The facility was not required to conduct a demonstration of maximum heat input capacity for B28 because ss. 60.44b(j) and (k) do not apply to B28.</p> <p>(c) does not apply because B28 does not demonstrate compliance with the NO_x standard using steam generating unit operating conditions.</p> <p>(d)(1) applies and is included in the draft permit. This section requires records of the amount of each fuel combusted during each day, and calculation of annual capacity factors for distillate oil and natural gas.</p> <p>(d)(2) does not apply because B28 burns more than one fuel.</p> <p>(e) does not apply because B28 does not combust residual oil.</p> <p>(f) does not apply because B28 uses a site-specific opacity monitoring plan instead of the opacity monitoring in s. 60.48b(a).</p> <p>(g) applies and is included in the draft permit.</p> <p>(h)(1) applies because B28 is subject to the opacity standards in s. 60.43b(f).</p> <p>(h)(2)(i) applies because B28 is subject to a NO_x standard in s. 60.44b and combusts natural gas and distillate oil.</p>

Table 9. Federal Standard Applicability: Subpart Db

NSPS: Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Db, as last amended 2/27/2014 (hereinafter subpart Db)]

Affected Source:

Boiler B28, Stack S08:— Boiler rated at 280 million Btu per hour when firing natural gas, 270 million Btu per hour when firing fuel oil. Equipped with low nitrogen oxides burners and flue gas recirculation. Constructed 1996, Permit # 95-SDD-048

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NSPS Section/Requirement	Applicability Description
	<p>(h)(2)(ii) does not apply because B28 is rated at greater than 250 mmBtu per hour. (h)(3) applies because B28 is subject to the opacity standards in s. 60.43b(f). (h)(4) does not apply because s. 60.48b(g)(1) does not apply to B28. Section 60.48b(g)(1) does not apply because B28 has a heat input greater than 250 mmBtu per hour.</p> <p>(i) applies and is included in the draft permit. The typo in the rule [citing s. 60.48(b) instead of s. 60.48b(b)] is corrected in the draft permit.</p> <p>(j) requires the owner or operator of an affected facility subject to the SO₂ standards to submit reports. This section would seem to apply because B28 is subject to the SO₂ emission limit of 0.20 pound per million Btu in s. 60.42b(a). However, the reporting requirements detailed in the following s. 60.49b(k) do not apply per s. 60.45b(j), and also are not applicable because B28 is not required to have a SO₂ CEMS. Because the detailed reporting required in s. 60.49b(k) is not required, this section is also not applicable to B28 and is not included in the draft permit.</p> <p>(k) does not apply because, per s. 60.45b(j), the compliance and performance testing requirements of s. 60.45b do not apply to B28.</p> <p>(l) does not apply because s. 60.45b(d) does not apply to B28.</p> <p>(m) does not apply because B28 is not required to have a SO₂ CEMS and is not subject to the compliance and performance testing requirements in s. 60.45b.</p> <p>(n) does not apply because B28 is not subject to percent removal requirements for SO₂.</p> <p>(o) applies and is included in the draft permit.</p> <p>(p) – (q) do not apply because ss. 60.44b(j) and (k) do not apply to B28.</p> <p>(r)(1) applies and is included in the draft permit. Section 60.49b(r)(2) does not apply because B28 can demonstrate compliance using fuel receipts as described in s. 60.49b(r)(1).</p> <p>(s) – (u) apply to specific emissions units at other facilities, and do not apply to B28.</p> <p>(v) applies and is included in the draft permit.</p> <p>(w) applies and is included in the draft permit.</p> <p>(x) – (y) apply to specific emissions units at other facilities, and do not apply to B28.</p>

Table 10. Federal Standard Applicability	
NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc, as last amended 02/27/2014] (hereinafter subpart Dc)]	
Affected Source(s): Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013 Stack S12, Boiler B40 – ≤99.9 mmBtu per hour natural gas-fired Boiler, constructed in 2022	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NSPS Section/Requirement	Applicability Description
(1) Operating Requirements	None required
(60.40c) Applicability and delegation of authority	<u>Boiler B30</u> is an affected facility under s. 60.40c(a) because it was constructed after June 9, 1989, and it has a heat input greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr. <u>Boiler B40</u> is an affected facility under 60.40c(a) because it will be constructed after June 9, 1989, and it has a heat input greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr.
(60.41c) Definitions	Terms used in 40 CFR part 60, subpart Dc, and in section I.C.4. of the permit, are defined in 40 CFR s. 60.41c. Terms not defined in 40 CFR s. 60.41c shall have the meaning given them in the Clean Air Act and in subpart A of 40 CFR part 60.
(60.42c) Standard for sulfur dioxide (SO₂)	Not applicable to natural gas-fired boilers. This section only applies to boilers that burn coal or oil.
(60.43c) Standard for particulate matter (PM)	Not applicable to natural gas-fired boilers. This section only applies to boilers that burn coal, oil, or wood.
(60.44c) Compliance and performance test methods and procedures for sulfur dioxide	Not applicable to natural gas-fired boilers
(60.45c) Compliance and performance test methods and procedures for particulate matter	Not applicable to natural gas-fired boilers
(60.46c) Emission monitoring for sulfur dioxide	Not applicable to natural gas-fired boilers
(60.47c) Emission monitoring for particulate matter	Not applicable to natural gas-fired boilers
(60.48c) Reporting and recordkeeping requirements	<u>Boiler B30</u> : The facility is required to maintain monthly records of the amount of each fuel combusted in the boiler under 40 CFR 60.48c(g)(2) and (3). Records must be retained for two years under 40 CFR s. 60.48c(i). <u>Boiler B40</u> : The facility is required to submit an initial notification under 40 CFR s. 60.48c(a)(1) and (3) and maintain monthly records of the amount of each fuel combusted in the boiler under 40 CFR s. 60.48c(g)(2) and (3). Records must be retained for two years under 40 CFR s. 60.48c(i). Sections 60.48c(b) through (f), (g)(1), (h), and (j) do not apply to Boilers B30 and B40 because they burn only natural gas, and are therefore not subject to the SO ₂ and PM emission limits and associated reporting and recordkeeping requirements.

The following table presents Subpart DDDDD applicability for Boilers B28, B30 and B40. The facility has committed to operate Boiler B28 as a unit designed to burn gas 1 fuels. Boiler B28 will burn No. 2 fuel oil only as allowed by Subpart DDDDD.

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels	
NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]	
<p>Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996</p> <p>Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013</p> <p>Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022</p>	
<p><i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i></p>	
NESHAP Section/Requirement	Applicability Description
(1) Operating Requirements	<p>This section restricts the use of No. 2 fuel oil in Boiler B28. B28 may burn No. 2 fuel oil during periods of gas curtailment or gas supply interruption. At other times, B28 may only burn No. 2 fuel oil for periodic testing, maintenance, or operator training, with the time for these purposes not to exceed a combined total of 48 hours during any calendar year.</p> <p>Boilers B30 and B40 are designed to burn natural gas only, so operating requirements are not included for these boilers in this section.</p>
(63.7480) Purpose	This section describes the purpose of Subpart DDDDD, and contains no applicable requirements for these boilers.
(63.7485) Applicability	Boilers B28, B30 and B40 are subject to 40 CFR part 63, subpart DDDDD because they are industrial boilers as defined in 40 CFR s. 63.7575 that are located at, or are part of, a major source of HAP.
(63.7490) Affected Source	<p>B28 is an affected source under s. 63.7490(a)(1) because it is an existing industrial boiler located at a major source of HAP emissions. B28 is an existing boiler because it was constructed prior to June 4, 2010 and was not reconstructed after that time.</p> <p>B30 and B40 are each an affected source under s. 63.7490(a)(2) because each is a new industrial boiler located at a major source of HAP emissions. B30 and B40 are new boilers because each commenced construction after June 4, 2010.</p>
(63.7491) Excluded Sources	This section specifies the types of emissions units that are not subject to Subpart DDDDD. None of these categories apply to B28, B30, and B40.
(63.7495) Compliance Deadlines	<p>(a) Boilers B30 and B40 are new boilers that must comply with 40 CFR part 63, subpart DDDDD by April 1, 2013, or upon startup, whichever is later.</p> <p>(b) Boiler B28 was required to comply with Subpart DDDDD by January 1, 2016. Since this compliance date has passed, this section is not included in the draft permit.</p> <p>(c) does not apply because the facility is not an area source.</p> <p>(d) applies and is included in the draft permit.</p> <p>(e) does not apply because none of the facility’s boilers burn solid waste.</p> <p>(f) does not apply because the facility’s boilers are not electric utility steam generating units (EGUs).</p> <p>(g) does not apply because the facility’s boilers are not used as control devices to comply with Part 60, 61, 63, or 65.</p> <p>(h) does not apply because B28, B30, and B40 will not switch between different subcategories. They will always operate as units designed to burn gas 1 fuels.</p> <p>(i) does not apply because B30 and B40 are designed to burn natural gas only and the facility would need to get a construction permit to allow other fuels to be burned in these boilers.</p>

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels

NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]

Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996

Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013

Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
(63.7499) <u>Affected Source Subcategory(ies)</u>	Boilers B28, B30 and B40 belong to the following subcategory: (l) Units designed to burn gas 1 fuels Boilers B28, B30, and B40 do not fit into any of the other subcategories in this section.
(63.7500) <u>Emission Limitations, Work Practice Standards and Operating Limits</u>	(a) The tune-up work practice standard in Item 1 of Table 3 to Subpart DDDDD applies to Boilers B28, B30, and B40 because they all have oxygen trim systems. None of the other requirements of s. 63.7500(a) apply to B28, B30, or B40 per s. 63.7500(e) because they are in the units designed to burn Gas 1 fuels subcategory. (1) The work practice standard requirements in s. 63.7500(a)(1) apply to Boilers B28, B30 and B40. The emission limit requirements do not apply to these boilers because they are units designed to burn gas 1 fuels, or are operating as units designed to burn gas 1 fuels. (2) The operating limit requirements in s. 63.7500(a)(2) do not apply to B28, B30, or B40, because units designed to burn gas 1 fuels do not have to meet the operating limits in Table 4 to Subpart DDDDD. (3) applies to B28, B30, and B40 and is included in the draft permit. (b) applies to B28, B30, and B40 and is included in the draft permit. (c) does not apply because B28, B30, and B40 are not limited use boilers. (d) does not apply because each boiler has a heat input capacity greater than 5 mmBtu/hr. (e) As stated in this section, new boilers B30 and B40 are not subject to the emission limits in Tables 1 or 11 to 14, or the operating limits in Table 4, because they are units designed to burn gas 1 fuels. Existing Boiler B28 is not subject to the emission limits in Tables 2 or 15 because it is operated as a unit designed to burn gas 1 fuels. (f) This section applies and is included in the draft permit, except that language about startup and shutdown does not apply because these boilers do not have add-on control devices and burn only fuels listed as clean fuels in Table 3 to Subpart DDDDD.
(63.7505) <u>General Compliance Requirements</u>	(a) applies and is included in the draft permit, except that the second sentence is not included because B28, B30, and B40 are not subject to any operating limits or emission limits.. (b) is reserved in Subpart DDDDD. (c) through (e) do not apply to B28, B30, or B40 because no emission limits apply to units designed to burn gas 1 fuels.
(63.7510) <u>Initial Compliance Requirements</u>	(a) through (d) do not apply to B28, B30 and B40, because no emission limits apply to units designed to burn gas 1 fuels. (e) applies to existing affected sources. This section is not included in the draft permit because B28 has already completed an initial tune-up and a one-time energy assessment. (f) applies to new affected sources. This section does not apply to B30 and B40 because they are not subject to any emission limits.

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels

NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]

Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996

Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013

Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	<p>(g) applies to new affected sources. This section does not apply to B30 because it has already demonstrated initial compliance with the applicable work practice standard (5-year tune-up) in Item 1 of Table 3 to Subpart DDDDD.</p> <p>This section applies to B40 because it has not yet demonstrated compliance with the 5-year tune-up requirement. The 5-year tune-up is not required to be completed until 61 months after the initial startup of B40.</p> <p>(h) and (i) do not apply to B28, B30, or B40 because they have never burned solid waste and are not existing electricity generating units (EGUs).</p> <p>(j) does not apply to B28 because the facility completed the initial compliance demonstration for B28, including the initial performance testing while burning light liquid fuel, initial tune-up, and one-time energy assessment.</p> <p>This section does not apply to B30 and B40 because they are not existing affected sources.</p> <p>(k) does not apply to B30 and B40 because they can only burn natural gas. This section does not apply to B28 because the facility has committed to operating this boiler as a unit designed to burn gas 1 fuel.</p>
<p>(63.7515) <u>Subsequent performance tests, fuel analyses, and tune-ups.</u></p>	<p>(a) through (c) do not apply to B28, B30 and B40. As units designed to burn gas 1 fuels, these boilers are not subject to any emission limits and therefore are not subject to performance testing requirements.</p> <p>(d) applies to B28, B30, and B40. These boilers are all subject to the 5-year tune-up requirement because they all have oxygen trim systems.</p> <p>(e) does not apply because none of the boilers demonstrate compliance using fuel analysis.</p> <p>(f) specifies the requirements for reporting results of performance tests. This section does not apply to B28, B30, and B40, because units designed to burn gas 1 fuels are not subject to performance testing or fuel analysis requirements.</p> <p>(g) specifies requirements for affected sources that have not operated since the previous compliance demonstration. The tune-up portions of this section apply to B28, B30, and B40. The requirements relating to compliance with emission limits do not apply because units designed to burn gas 1 fuels are not subject to emission limits.</p> <p>(h) applies to boilers that are units designed to burn light liquid fuels. This section does not apply to B28, B30 and B40 because they are units designed to burn gas 1 fuels.</p> <p>(i) does not apply to B28, B30, and B40, because units designed to burn gas 1 fuels are not subject to emission limits for carbon monoxide.</p>
<p>(63.7520) <u>Performance Tests and Procedures</u> (63.7521) <u>Fuel Analyses, Fuel</u></p>	<p>These sections do not apply to B28, B30, and B40, because units designed to burn gas 1 fuels are not subject to any emission limits or operating limits.</p>

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels

NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]

Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996
Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013
Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
<u>Specifications and Procedures</u> (63.7522) Emissions Averaging (63.7525) Monitoring Requirements	
(63.7530) Initial Compliance Requirements for Emission Limitations, Fuel Specification, and Work Practice Standards	<p>(a) through (c) do not apply to B30 and B40, or to B28, because units designed to burn gas 1 fuels are not subject to any emission limits.</p> <p>(d) is reserved in Subpart DDDDD.</p> <p>(e) states that facilities must include a certification about the energy assessment required for existing boilers in their Notification of Compliance Status. This section does not apply to B30 and B40 because they are new boilers, not existing boilers. The facility has already performed the energy assessment required for B28. Therefore, this section is not included in the draft permit.</p> <p>(f) is not included in the draft permit. This section does not apply to B30 and B40 because, for these new boilers, the facility is required to submit an Initial Notification rather than a Notification of Compliance Status. The facility has already submitted a Notification of Compliance Status for B28.</p> <p>(g) does not apply because these boilers only burn natural gas. Fuel specification analysis is not required for natural gas.</p> <p>(h) does not apply because these boilers are not subject to any emission limits.</p> <p>(i) does not apply because these boilers are not subject to any operating limits.</p>
(63.7533) Use of Efficiency Credits (63.7535) Monitoring Data Minimum Requirements	<p>These sections do not apply to units designed to burn gas 1 fuels, because they are not subject to any emission limits or operating limits.</p>
(63.7540) Continuous Compliance Demonstration Requirements for Emission Limitations, Fuel Specifications and Work Practice Standards	<p>(a)(1) through (9) do not apply to B28, B30, and B40 because they are not subject to any emission limits or operating limits.</p> <p>(10) The tune-up methods in this section apply to B28, B30, and B40.</p> <p>(11) does not apply because B28, B30, and B40 are each rated at greater than 10 million Btu per hour.</p> <p>(12) applies to B28, B30, and B40 because they each have an oxygen trim system.</p> <p>(13) applies to B28, B30, and B40 and is included in the draft permit.</p> <p>(14) through (19) do not apply to B28, B30, and B40 because they are not subject to any emission limits.</p>

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels

NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]

Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996

Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013

Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	<p>(b) does not apply to B28, B30, and B40 because they are not subject to any emission limits or operating limits.</p> <p>(c) does not apply to B28, B30, and B40 because they only burn natural gas.</p> <p>(d) does not apply to B28, B30, and B40 because they are not subject to any emission limits in tables 1, 2, and 11 through 15 to Subpart DDDDD.</p>
<p>(63.7541) <u>Continuous Compliance Demonstration Requirements Under the Emissions Averaging Provision</u></p>	<p>This section does not apply because B28, B30, and B40 do not use emissions averaging.</p>
<p>(63.7545) <u>Notification Requirements</u></p>	<p>(a) applies to all boilers, including B28, B30, and B40.</p> <p>(b) is not included in the draft permit because the facility already submitted the initial notification for B28. B30 and B40 started up after January 31, 2013, and therefore are not subject to the initial notification requirement in this section.</p> <p>(c) does not apply to B28 because it did not start up on or after January 31, 2013. This section applies to B30 and B40 and is included in the draft permit.</p> <p>(d) does not apply because B28, B30, and B40 are not required to conduct performance tests.</p> <p>(e) does not apply because the facility has already submitted the Notification of Compliance Status for B28, and B30 and B40 are not required to submit a Notification of Compliance Status.</p> <p>(f) applies to B28 because it is capable of burning No. 2 fuel oil during periods of natural gas curtailment or supply interruption. This section does not apply to B30 and B40 because they are only capable of burning natural gas.</p> <p>(g) does not apply to B28, B30, and B40 because they are not capable of burning solid waste.</p> <p>(h) does not apply to B30 and B40 because they can only burn natural gas. This section does not apply to B28 because it will only operate as a unit designed to burn gas 1 fuel.</p>
<p>(63.7550) <u>Reporting Requirements</u></p>	<p>(a) applies and is included in the draft permit.</p> <p>(b) applies and is included in the draft permit. The language in this section is edited to include only the requirements for boilers subject to a 5-year tune-up requirement.</p> <p>(c) Boilers B28, B30, and B40 are only subject to a 5-year tune-up requirement, and are not limited use boilers. Therefore, per s. 63.7550(c)(1), the information required in the compliance report is in ss. 63.7550(c)(5)(i)-(iii), (c)(5)(xiv), and (c)(5)(xvii). The information in other sections of s. 63.7550(c) is not required.</p> <p>(d) and (e) do not apply, because as units designed to burn gas 1 fuels B28, B30, and B40 are not subject to any emission limits.</p> <p>(f) and (g) are reserved in Subpart DDDDD.</p> <p>(h)(1) and (2) do not apply because as units designed to burn gas 1 fuels, B28, B30, and B40 are not subject to any emission limits and therefore are not subject to any requirements for</p>

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels

NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]

Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996

Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013

Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	performance testing or continuous emissions monitoring system (CEMS) performance evaluation. (h)(3) applies and is included in the draft permit.
(63.7555) <u>Recordkeeping Requirements</u>	(a)(1) and (2) apply and are included in the permit. (a)(3) does not apply because B28, B30, and B40 are not limited use boilers. (b) through (g) do not apply because, as units designed to burn gas 1 fuels, B28, B30 and B40 are not subject to any emission limits or operating limits. In addition, since natural gas is the only gaseous fuel used, the facility is not required to keep records related to the fuel specification for mercury. (h) applies to B28 because it is capable of burning No. 2. fuel oil. This section does not apply to B30 or B40 because they can only burn natural gas.
(63.7560) <u>Record Form and Retention Requirements</u>	This section applies and is included in the draft permit.
(63.7565) <u>General Provisions</u>	Table 10 to 40 CFR part 63, subpart DDDDD shows which parts of the General Provisions in 40 CFR ss. 63.1 through 63.15 apply to the facility. This section is included in the draft permit as a paragraph level citation.
(63.7570) <u>Implementation and Enforcement</u>	This section does not contain any applicable requirements for facilities, and is not included in the draft permit.
(63.7575) <u>Definitions</u>	Terms used in 40 CFR part 63, subpart DDDDD are defined in 40 CFR 63.7575, the Clean Air Act, and in 40 CFR s. 63.2 (the General Provisions). This section is included in the draft permit as a paragraph level citation.
Tables 1, 2, and 11 through 15 to Subpart DDDDD	These tables do not apply to B28, B30, or B40 because, as units designed to burn gas 1 fuels, they are not subject to any emission limits.
Table 3 to Subpart DDDDD	The tune-up requirements in item 1 of Table 3 apply to B28, B30, and B40 because they have oxygen trim systems. These requirements are included in the permit. Other items in Table 3 do not apply because these are units designed to burn gas 1 fuels; or the requirements have already been fulfilled.
Tables 4, 5, 6, 7, to Subpart DDDDD	The requirements in these tables do not apply to B28, B30, and B40 because, as units designed to burn gas 1 fuels, they are not subject to any operating limit, performance testing, fuel analysis, or continuous compliance demonstration requirements.
Table 9 to Subpart DDDDD	The reporting requirement in item 1 of Table 9 applies to B28, B30, and B40 because they have oxygen trim systems and are therefore required to submit a report on tune-ups every 5 years.

Table 11. Federal Standard Applicability: units designed to burn gas 1 fuels	
NESHAP for : Industrial, Commercial and Institutional Boilers and Process Heaters Major Sources. [40 CFR Part 63, Subpart DDDDD, as last amended 12/28/2020]	
<p>Stack S08, Boiler B28: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr), constructed 1996</p> <p>Stack S11, Boiler B30 – 95 mmBtu per hour natural gas-fired boiler, constructed in 2013</p> <p>Stack S12: Boiler B40 – ≤ 99.9 MMBtu/hr natural gas-fired package boiler with low NOx burners and flue gas recirculation, constructed in 2022</p>	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NESHAP Section/Requirement	Applicability Description
Table 10 to Subpart DDDDD	This table presents the applicability of the General Provisions (Part 63, Subpart A) to Subpart DDDDD. Section 63.7565 references Table 10 and will be included in the permit as a paragraph level citation.

A. Boiler B28, Stack S08: Boiler firing natural gas (280 mmBtu/hr) and No. 2 fuel oil (270 mmBtu/hr)

Emissions Calculations for Boiler B28

For all pollutants except CO and VOCs, hourly emissions are highest when firing distillate oil. To estimate potential to emit (PTE), it is assumed that 808,333 gallons of distillate oil are burned per year, equivalent to 412 hours per year, and that natural gas is burned the remainder of the time. CO and VOC emissions are calculated assuming operation on natural gas for 8760 hours per year.

Under normal circumstances, B28 will not operate for more than 48 hours per year on distillate oil, so that it qualifies as a unit designed to burn gas 1 fuels under NESHAP Subpart DDDDD. However, in cases of natural gas curtailment or gas supply interruption, Subpart DDDDD would not restrict operation of B28 on distillate oil. Therefore, the limit of 808,333 gallons distillate oil per year is used to calculate PTE.

Sample Calculation, particulate matter:

$$\text{MTE: } 3.3 \text{ lb/1000 gallons (lb/gal3)} \times 1.96 \text{ gal3/hr} = 6.46 \text{ lb/hr}$$

$$6.46 \text{ lb/hr} \times 8760 \text{ hr/yr} \times 1 \text{ ton/2000 lb} = 28.3 \text{ tons/year}$$

PTE: Use of distillate oil limited to 808,333 gallons per year.

$$808,333 \text{ gallons/year} \times 1 \text{ hour/1960 gallons} = 412 \text{ hours of operation on distillate oil per year}$$

$$8760 \text{ hours/year} - 412 \text{ hours/year on distillate oil} = 8348 \text{ hours of operation on natural gas per year}$$

PM:

$$\text{Oil: } 3.3 \text{ lb/gal3} \times 1.96 \text{ gal3/hr} \times 412 \text{ hours/year} \times 1 \text{ ton/2000 lb} = 1.33 \text{ tons/year}$$

$$\text{Natural gas: } 7.6 \text{ lb/ million cubic feet (mmcf)} \times 0.273 \text{ mmcf/hr} \times 8348 \text{ hr/yr} \times 1 \text{ ton/2000 lb} = 8.66 \text{ tons/year}$$

$$1.33 \text{ tons/yr} + 8.66 \text{ tons/yr} = 9.99 \text{ tons/year}$$

SO₂: MTE: Use oil sulfur content of 0.5%. PTE: use oil sulfur content of 0.05%.

$$\text{MTE: } 142(0.5) \text{ lb/gal3} \times 1.96 \text{ gal3/hr} = 139 \text{ lb/hr}$$

$$\text{PTE: } [(142(0.05) \text{ lb/gal3} \times 1.96 \text{ gal3/hr} \times 412 \text{ hr/yr}) + (0.6 \text{ lb/mmcf} \times 0.273 \text{ mmcf/hr} \times 8348 \text{ hr/yr})] \times 1 \text{ ton/2000 lb} = 3.55 \text{ tons/year}$$

NO_x: MTE: based on oil combustion for 8760 hours per year.

PTE: Based on BACT limits of 0.1 lb/mmBtu for oil, 0.05 lb/mmBtu for natural gas, 412 hours per year of operation on oil, and 8348 hours per year of operation on natural gas. Heat input capacity is 280 mmBtu per hour on natural gas, 270 mmBtu per hour on No.2. oil.

Annual PTE:

$$[(0.1 \text{ lb/mmBtu} \times 270 \text{ mmBtu/hr} \times 412 \text{ hr/yr}) + (0.05 \text{ lb/mmBtu} \times 280 \text{ mmBtu/hr} \times 8348 \text{ hr/yr})] \times 1 \text{ ton}/2000 \text{ lb} = 64.0 \text{ tons/year}$$

$$\text{CO, Allowable: } 0.17 \text{ lb/mmBtu} \times 280 \text{ mmBtu/hr} = 47.6 \text{ lb/hr}$$

Table 12. Criteria pollutant emissions from Boiler B28: 280 mmBtu per hour while firing natural gas, 270 mmBtu per hour while firing distillate oil. NG = natural gas, 0.273 million cubic feet per hour (mmcf/hr); FO = distillate oil, 1960 gallons/hr (1.96 gal3/hour)							
Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons per year (TPY)	PTE, lb/hr	PTE, TPY	Wis. Adm. Code/Permit Allowable, lb/hr
PM	FO: 3.3 lb/gal3 NG: 7.6 lb/mmcf	FO: WebFIRE, SCC code 1-02-005-01 NG: AP-42, Table 1.4-2 MTE and hourly PTE: based on oil combustion Annual PTE: based on 808,333 gal oil/yr, balance natural gas Allowable: permit limit	6.46	28.3	6.46	9.99	17.1
PM ₁₀	FO: 2.3 lb/gal3 NG: 7.6 lb/mmcf	"	4.51	19.7	4.51	9.59	17.1
PM _{2.5}	FO: 1.55 lb/gal3 NG: 7.6 lb/mmcf	"	3.04	13.3	3.04	9.29	17.1
SO ₂	FO: 142S lb/gal3, S=% sulfur NG: 0.6 lb/mmcf	MTE: AP-42, Table 1.3-1 and 0.5% sulfur PTE, FO: AP-42, Table 1.3-1, 0.05% sulfur, and 808,333 gal oil/yr PTE, NG: AP-42, Table 1.4-2	139	609	13.9	3.55	13.9
NO _x	FO: 24 lb/gal3 NG: 140 lb/mmcf	MTE: FO: AP-42, Table 1.3-1 PTE: 0.1 lb/mmBtu for FO, 0.05 lb/mmBtu for NG, 808,333 gal oil/yr, balance NG	FO: 47.0 NG: 38.2	206	FO: 27.0 NG: 14.0	64.0	FO: 27.0 NG: 14.0
VOC	NG: 5.5 lb/mmcf	AP-42, Table 1.4-2	1.5	6.58	1.5	6.58	1.5
CO	84 lb/mmcf	AP-42, Table 1.4-1, wall-fired boilers	22.9	100	22.9	100	47.6 (nat. gas) 45.9 (No. 2)

Table 12. Criteria pollutant emissions from Boiler B28: 280 mmBtu per hour while firing natural gas, 270 mmBtu per hour while firing distillate oil.
 NG = natural gas, 0.273 million cubic feet per hour (mmcf/hr); FO = distillate oil, 1960 gallons/hr (1.96 gal3/hour)

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons per year (TPY)	PTE, lb/hr	PTE, TPY	Wis. Adm. Code/Permit Allowable, lb/hr
lead	1.51E-03 lb/gal3 ⁷	AP-42, Table 1.3-11	0.003	0.013	0.003	0.013	0.003

Table 13. HAP emissions from Boiler B28: 280 mmBtu per hour while firing natural gas, 270 mmBtu per hour while firing distillate oil. Max. operation on fuel oil: 412 hours per year. operation on natural gas when maximizing fuel oil use: 8348 hours per year.
 NG = natural gas, 0.273 million cubic feet per hour (mmcf/hr); FO = distillate oil, 1960 gallons/hr (1.96 gal3/hour)

Pollutant	Emission Factor or Estimate, NG or FO	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
Ammonia (s)	NG 3.20E+00 lb/mmcf FO 0.8 lb/gal3	WebFIRE, SCC 10200601 WebFIRE, SCC 10200501	8.73E-01 1.57	6.86	1.57	3.97
Arsenic (f,s)	NG 2.00E-04 lb/mmcf FO 4.00E-06 lb/mmBtu	AP-42, Table 1.4-4 WebFIRE, SCC 10200501	5.46E-05 1.08E-03	4.73E-03	1.08E-03	4.5E-04
Barium (s)	NG 4.40E-03 lb/mmcf	AP-42, Table 1.4-4	1.20E-03	5.26E-03	1.20E-03	5.26E-03
Benzene (f,s)	NG 2.10E-03 lb/mmcf	AP-42, Table 1.4-3	5.73E-04	2.51E-03	5.73E-04	2.51E-03
Benzo(k)fluoranthene (s)	NG 1.80E-06 lb/mmcf	AP-42, Table 1.4-3	4.91E-07	2.15E-06	4.91E-07	2.15E-06
Beryllium (f,s)	FO 3.00E-06 lb/mmBtu	WebFIRE, SCC 10200501	8.10E-04	3.55E-03	8.10E-04	1.67E-04
Cadmium (f,s)	NG 1.10E-03 lb/mmcf FO 3.00E-06 lb/mmBtu	AP-42, Table 1.4-4 Webfire, SCC 10200501	3.00E-04 8.10E-04	3.55E-03	8.10E-04	0.0014
Chromium (f,s)	NG 1.40E-03 lb/mmcf	AP-42, Table 1.4-4	3.82E-04	3.55E-03	8.10E-04	0.0018

⁷ This emission factor is presented in scientific notation. "1.510E-03" means 1.51 x 10⁻³, or 0.00151.

Table 13. HAP emissions from Boiler B28: 280 mmBtu per hour while firing natural gas, 270 mmBtu per hour while firing distillate oil. Max. operation on fuel oil: 412 hours per year. operation on natural gas when maximizing fuel oil use: 8348 hours per year.

NG = natural gas, 0.273 million cubic feet per hour (mmcf/hr); FO = distillate oil, 1960 gallons/hr (1.96 gal3/hour)

Pollutant	Emission Factor or Estimate, NG or FO	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
	FO 3.00E-06 lb/mmBtu	WebFIRE, SCC 10200501	8.10E-04			
Cobalt (f,s)	NG 8.40E-05 lb/mmcf	AP-42, Table 1.4-4	2.29E-05	1.00E-04	2.29E-05	1.00E-04
Copper (s)	NG 8.50E-04 lb/mmcf FO 6.00E-06 lb/mmBtu	AP-42, Table 1.4-4 WebFIRE, SCC 10200501	2.32E-04 1.62E-03	7.10E-03	1.62E-03	0.0013
Dichlorobenzene (f,s)	NG 1.20E-03 lb/mmcf	AP-42, Table 1.4-3	3.27E-04	1.43E-03	3.27E-04	1.43E-03
Formaldehyde (f,s)	NG 7.50E-02 lb/mmcf FO 6.1E-02 lb/gal3	AP-42, Table 1.4-3 WebFIRE, SCC 10200501	2.05E-02 0.12	0.52	0.12	0.11
Hexane (f,s)	NG 1.80E+00 lb/mmcf	AP-42, Table 1.4-3	0.49	2.15	0.49	2.15
Manganese (f,s)	NG 3.80E-04 lb/mmcf FO 6.00E-06 lb/mmBtu	AP-42, Table 1.4-4 WebFIRE, SCC 10200501	1.04E-04 1.62E-03	7.10E-03	1.62E-03	7.68E-04
Mercury (f,s)	NG 2.6E-04 lb/mmcf FO 3.00E-06 lb/mmBtu	AP-42, Table 1.4-4 WebFIRE, SCC 10200501	7.10E-05 8.10E-04	3.55E-03	8.10E-04	4.63E-04
Molybdenum (s)	NG 1.10E-03 lb/mmcf	AP-42, Table 1.4-4	3.00E-04	1.31E-03	3.00E-04	1.31E-03
Naphthalene (f,s)	NG 6.10E-04 lb/mmcf	AP-42, Table 1.4-3	1.66E-04	7.29E-04	1.66E-04	7.29E-04
Nickel (f,s)	NG 2.10E-03 lb/mmcf FO 3.00E-06 lb/mmBtu	AP-42, Table 1.4-4 WebFIRE, SCC 10200501	5.73E-04 8.10E-04	3.55E-03	8.10E-04	2.56E-03
Polycyclic Organic	NG 6.49E-07	WebFIRE, SCC	1.82E-04	2.83E-02	6.46E-03	2.09E-03

Table 13. HAP emissions from Boiler B28: 280 mmBtu per hour while firing natural gas, 270 mmBtu per hour while firing distillate oil. Max. operation on fuel oil: 412 hours per year. operation on natural gas when maximizing fuel oil use: 8348 hours per year.
 NG = natural gas, 0.273 million cubic feet per hour (mmcf/hr); FO = distillate oil, 1960 gallons/hr (1.96 gal3/hour)

Pollutant	Emission Factor or Estimate, NG or FO	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
Matter (POM) (f)	lb/mmBtu FO 3.30E-03 lb/gal3	10200601 WebFIRE, SCC 10200501	6.46E-03			
Toluene (f,s)	NG 3.40E-03 lb/mmcf	AP-42, Table 1.4-3	9.28E-04	4.06E-03	9.28E-04	4.06E-03
Vanadium as V2O5 (s)	NG 4.11E-03 lb/mmcf	AP-42, Table 1.4-4 (adjusted)	1.12E-03	4.91E-03	1.12E-03	4.91E-03

V₂O₅ adjustment: 2.30E-03 lb/mmcf x [(50.94 + 5/2(16))/50.94] = 4.11E-03 lb/mmcf (This adjustment is used because the vanadium emission factor in AP-42 is in terms of vanadium, but the NR 445 Table A threshold values for vanadium are in terms of vanadium pentoxide.)

Applicable Requirements for Boiler B28

Table 14. Applicable Emission Limitations for Boiler B28

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration methods
PM	NR 415.06(2)(c), Wis. Adm. Code	0.10 lb/mmBtu heat input	- B28 was constructed/last modified after April 1, 1972. - B28 is rated at greater than 250 mmBtu per hour.	- Only burn natural gas and No. 2 fuel oil. - It is expected that B28 will meet this limit because MTE is less than the limit.
PM	NR 407.09(2)(d)3., Wis. Adm. Code	17.1 lb/hr	Limit was included in a previous permit and is retained to avoid triggering construction permit requirements.	Same as above
Visible Emissions (VE)	NR 431.05, Wis. Adm. Code	20% opacity	- B28 was constructed after April 1, 1972.	Same as above It is expected that B28 will meet the VE limit because natural gas and distillate oil are clean burning fuels.
SO ₂	285.63(1)(b) and 285.65(3), Wis. Stats.	Sulfur content limit of 0.05% by weight	Air quality modeling showed this limit is needed to protect the SO ₂ NAAQS.	- Keep records of sulfur content for each fuel oil delivery - It is expected that B28 will meet this limit when purchasing fuel that meets the limit and keeping the required records.

Table 14. Applicable Emission Limitations for Boiler B28				
Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration methods
SO ₂	285.65(7), Wis. Stats.	Limit on No. 2 fuel oil use: 808,333 gallons per month, 12-month average	Limit was included in Permit 95-SDD-048 so that construction of B28 would not result in a significant net emissions increase of SO ₂ under PSD.	- Keep records of monthly and 12-month average fuel oil use - It is expected that B28 will meet this limit when restricting fuel oil use to less than the limit and keeping the required records.
CO	s. NR 405.08, Wis. Adm. Code, Permit 95-SDD-048	0.17 lb/mmBtu	PSD BACT applies because construction of B28 resulted in a significant increase in CO emissions. BACT was established in Permit 95-SDD-048.	- Keep records of monthly fuel oil use - Keep records of the types of fuel B28 is designed to burn - It is expected that B28 will meet this limit because MTE is less than the limit for both natural gas and No. 2. fuel oil.
NO _x	s. NR 405.08, Wis. Adm. Code, Permit 95-SDD-048	- 0.10 lb/mmBtu when firing No. 2 fuel oil - 0.05 lb/mmBtu when firing natural gas	PSD BACT applies because construction of B28 resulted in a significant increase in NO _x emissions. BACT was established in Permit 95-SDD-048.	- Operate a NO _x CEMS - It is expected that B28 will meet these limits based on CEMS monitoring data.
NSPS – PM, SO ₂ , and NO _x	40 CFR Part 60, Subpart Db	See Subpart Db applicability table above. - NO _x CEMS monitoring shows compliance with the NO _x limits. It is expected that B28 will comply with the limits in Subpart Db when operating as required under this subpart.		
Federal HAPs	40 CFR Part 63, Subpart DDDDD	See Subpart DDDDD applicability table above. - It is expected that B28 will comply with the requirements in Subpart DDDDD when operating as required under this subpart.		

Boiler B28 is also subject to the general emission limitation for volatile organic compounds in s. NR 419.03, Wis. Adm. Code. The general limitations are included in Part II of the permit.

Changes for Boiler B28 in Renewal 74400810A-P30

- In current permit 744008100-P22, requirements for Boiler B28 are in Table B. In Renewal 74400810A-P30, these requirements will be in Table A.
- Particulate matter: Condition I.B.1.c.(2)(a) in current permit 744008100-P22 requires the facility to keep monthly records of the amount of distillate oil burned in Boiler B28. This requirement does not serve to show compliance with particulate matter emission limits and therefore will not be included for particulate matter in Renewal 74400810A-P30. The requirement is retained in conditions for sulfur dioxide, since it supports the limit on the amount of distillate fuel oil combusted which is included with other conditions for sulfur dioxide.
- Visible emissions: Current permit 744008100-P22 contains a number of NSPS Subpart Db requirements in the visible emissions Section I.B.2, including a requirement to calculate the annual capacity factor and alternative opacity monitoring requirements. In Renewal 74400810A-P30, all Subpart Db requirements will be in Section I.A.6., as discussed above in Section 5.2.1.
- Nitrogen oxides: As discussed under the Revision of Permit 95-SDD-048 in Section 5.2.1, nitrogen oxide requirements that come from NSPS Subpart Db will be located in Section I.A.6 of Renewal 74400810A-P30,

instead of in the section for nitrogen oxides, I.A.5. Conditions relating to monitoring nitrogen oxide emissions for compliance with the BACT limits will be retained in Section I.A.5.

Condition I.B.5.a.(2) in current permit 744008100-P22 requires use of a nitrogen oxide CEMS. This condition is a compliance demonstration requirement rather than an emission limitation. In Renewal 74400810A-P30, it will be located in column b. as Condition I.A.5.b.(1).

Condition I.B.5.b.(5) in current permit 744008100-P22 requires the facility to use the conversion procedures in s. NR 440.19(6)(e), Wis. Adm. Code, to convert the nitrogen oxide CEMS data into the units of the applicable limit in pounds per million Btu. Section NR 440.19(6)(e), Wis. Adm. Code, corresponds to 40 CFR s. 60.45(e) in NSPS Subpart D. Renewal 74400810A-P30 expands this condition and makes it more precise, by including the formula from s. 60.45(e) (when oxygen is measured) and the definition of formula terms from 40 CFR s. 60.45(f). The values for “F” are updated to the current values of “F_d” for natural gas and oil that are listed in Table 19-2 of Method 19 in Appendix A-7 to 40 CFR Part 60.

B. Boiler B30, Stack S11:

Emissions Calculations for Boiler B30

Table 15. Criteria pollutant emissions from Boiler B30: 95 mmBtu per hour natural gas-fired boiler, 0.093 mmcf/hr							
Pollutant	Emission Factor or Estimate, lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	Allowable, lb/hr
PM	7.6	MTE and PTE: AP-42, Table 1.4-2 Allowable: permit limit	0.71	3.1	0.71	3.1	1.43
PM ₁₀	7.6	"	0.71	3.1	0.71	3.1	1.43
PM _{2.5}	7.6	"	0.71	3.1	0.71	3.1	1.43
SO ₂	0.6	AP-42, Table 1.4-2 Allowable: MTE	0.06	0.24	0.06	0.24	0.06
NO _x	100	AP-42, Table 1.4-1 – boilers <100 mmBtu/hr Allowable: Permit limit	9.3	40.7	9.3	40.7	15
VOC	5.5	AP-42, Table 1.4-2 Allowable: MTE	0.51	2.24	0.51	2.24	0.51
CO	84	AP-42, Table 1.4-1, boilers <100 mmBtu/hr Allowable: Permit limit	7.8	34.2	7.8	34.2	10.8
lead	5.0E-04	AP-42, Table 1.4-2 Allowable: MTE	4.7E-05	2.0E-04	4.7E-05	2.0E-04	4.7E-05

Table 16. HAP emissions from Boiler B30: 95 mmBtu per hour natural gas-fired boiler, 0.093 mmcf/hr						
Pollutant	Emission Factor or Estimate lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Ammonia (s)	3.20E+00	WebFIRE, SCC 10200601	2.96E-01	1.30E+00	2.96E-01	1.30E+00
Arsenic (f,s)	2.00E-04	AP-42, Table 1.4-4	1.85E-05	8.11E-05	1.85E-05	8.11E-05

Pollutant	Emission Factor or Estimate lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Barium (s)	4.40E-03	AP-42, Table 1.4-4	4.07E-04	1.78E-03	4.07E-04	1.78E-03
Benzene (f,s)	2.10E-03	AP-42, Table 1.4-3	1.94E-04	8.52E-04	1.94E-04	8.52E-04
Benzo(k)fluoranthene (s)	1.80E-06	AP-42, Table 1.4-3	1.67E-07	7.30E-07	1.67E-07	7.30E-07
Cadmium (f,s)	1.10E-03	AP-42, Table 1.4-4	1.02E-04	4.46E-04	1.02E-04	4.46E-04
Chromium (f,s)	1.40E-03	AP-42, Table 1.4-4	1.30E-04	5.68E-04	1.30E-04	5.68E-04
Cobalt (f,s)	8.40E-05	AP-42, Table 1.4-4	7.78E-06	3.41E-05	7.78E-06	3.41E-05
Copper (s)	8.50E-04	AP-42, Table 1.4-4	7.87E-05	3.45E-04	7.87E-05	3.45E-04
Dichlorobenzene (f,s)	1.20E-03	AP-42, Table 1.4-3	1.11E-04	4.87E-04	1.11E-04	4.87E-04
Formaldehyde (f,s)	7.50E-02	AP-42, Table 1.4-3	6.94E-03	3.04E-02	6.94E-03	3.04E-02
Hexane (f,s)	1.80E+00	AP-42, Table 1.4-3	1.67E-01	7.30E-01	1.67E-01	7.30E-01
Manganese (f,s)	3.80E-04	AP-42, Table 1.4-4	3.52E-05	1.54E-04	3.52E-05	1.54E-04
Mercury (f,s)	2.6E-04	AP-42, Table 1.4-4	2.41E-05	1.05E-04	2.41E-05	1.05E-04
Molybdenum (s)	1.10E-03	AP-42, Table 1.4-4	1.02E-04	4.46E-04	1.02E-04	4.46E-04
Naphthalene (f,s)	6.10E-04	AP-42, Table 1.4-3	5.65E-05	2.47E-04	5.65E-05	2.47E-04
Nickel (f,s)	2.10E-03	AP-42, Table 1.4-4	1.94E-04	8.52E-04	1.94E-04	8.52E-04
Polycyclic Organic Matter (POM)	6.49E-07 lb/mmBtu	WebFIRE, SCC code 10200601	6.17E-05	2.70E-04	6.17E-05	2.70E-04
Toluene (f,s)	3.40E-03	AP-42, Table 1.4-3	3.15E-04	1.38E-03	3.15E-04	1.38E-03
Vanadium as V2O5 (s)	4.11E-03	AP-42, Table 1.4-4 (adjusted)	3.82E-04	1.67E-03	3.82E-04	1.67E-03

Applicable Requirements for Boiler B30

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration methods
PM	NR 415.06(2)(a), Wis. Adm. Code	0.15 lb/mmBtu heat input	- B30 was constructed/last modified after April 1, 1972. - B30 is rated at less than 250 mmBtu per hour.	- Only burn natural gas. - It is expected that B30 will meet this limit because MTE is less than the limit.
PM	NR 407.09(2)(d)3., Wis. Adm. Code	1.43 lb/hr	Limit was included in a previous permit and is retained to avoid triggering construction permit requirements.	Same as above
Visible Emissions	NR 431.05, Wis. Adm. Code	20% opacity	- B30 was constructed after April 1, 1972.	Same as above

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration methods
SO ₂	ss. 285.63(1)(b) and 285.65(3), Wis. Stats.	Only burn natural gas	Limit was included in Permit 13-SDD-014 to protect the SO ₂ NAAQS. Retained to ensure compliance with the SO ₂ NAAQS.	<ul style="list-style-type: none"> - Keep records of boiler design specifications - It is expected that B30 will meet this limit because it is designed to burn only natural gas.
NO _x	s. 285.65(7), Wis. Stats.	15 lb/hr, 3-hour average	Limit was included in Permit 13-SDD-014 so that construction of B30 would not be subject to PSD review for NO _x .	<ul style="list-style-type: none"> - Operate an oxygen trim system - Operate B30's flue gas recirculation system - Keep records of stack tests - It is expected that B30 will meet this limit when operating the oxygen trim system and flue gas recirculation system. - Stack testing conducted on 9/4/2014 showed compliance with the limit.
CO	s. 285.65(7), Wis. Stats.	10.8 lb/hr	Limit was included in Permit 13-SDD-014 so that construction of B30 would not be subject to PSD review for CO.	<ul style="list-style-type: none"> - Operate an oxygen trim system - Operate B30's flue gas recirculation system - Keep records of stack tests - It is expected that B30 will meet this limit when operating the oxygen trim system and flue gas recirculation system. - Stack testing conducted on 7/17/2014 and 9/4/2014 showed compliance with the limit.
NSPS	40 CFR Part 60, Subpart Dc	See Subpart Dc applicability table above. - It is expected that B30 will comply with the limits in Subpart Dc when operating as required under this subpart.		
Federal HAPs	40 CFR Part 63, Subpart DDDDD	See Subpart DDDDD applicability table above. - It is expected that B30 will comply with the requirements in Subpart DDDDD when operating as required under this subpart.		

Boiler B30 is also subject to the general emission limitations for volatile organic compounds in s. NR 419.03, Wis. Adm. Code. The general limitations are included in Part II of the permit.

Changes for Boiler B30 in Renewal 74400810A-P30

1. In current permit 744008100-P22, requirements for Boiler B30 are in Table N. In Renewal 74400810A-P30, they will be in Table B.
2. In Renewal 74400810A-P30, NESHAP Subpart DDDDD requirements for Boiler B30 and the facility's other boilers are consolidated in Table WWW.

C. Boiler B40, Stack S12: ≤ 99.9 mmBtu per hour natural gas-fired boiler

Emissions Calculations for Boiler B40

Table 18. Criteria pollutant and greenhouse gas emissions from Boiler B40: ≤ 99.9 mmBtu per hour natural gas-fired boiler, 0.097 mmcf/hr

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	NR 415 Allowable, lb/hr
PM	0.005 lb/mmBtu	Vendor guarantee Allowable: permit limit	0.50	2.19	0.50	2.19	15.0
PM ₁₀	0.005 lb/mmBtu	"	0.50	2.19	0.50	2.19	15.0
PM _{2.5}	0.005 lb/mmBtu	"	0.50	2.19	0.50	2.19	15.0
SO ₂	0.6 lb/mmcf	AP-42, Table 1.4-2	0.06	0.25	0.06	0.25	---
NO _x	0.036 lb/mmBtu	Vendor guarantee	3.60	15.8	3.60	15.8	---
VOC	0.004 lb/mmBtu	Vendor guarantee	0.40	1.75	0.40	1.75	---
CO	0.0375 lb/mmBtu	Vendor guarantee	3.75	16.4	3.75	16.4	---
lead	5.0E-04 lb/mmcf	AP-42, Table 1.4-2	4.9E-05	2.1E-04	4.9E-05	2.1E-04	---
Greenhouse gases	See below	40 CFR Part 98 Subpart C, Tables A-1, C-1 and C-2					

Table 19. HAP emissions from Boiler B40: ≤ 99.9 mmBtu per hour natural gas-fired boiler, 0.097 mmcf/hr

Pollutant	Emission Factor or Estimate lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Ammonia (s)	3.20E+00	WebFIRE, SCC 10200601	0.31	1.36	0.31	1.36
Arsenic (f,s)	2.00E-04	AP-42, Table 1.4-4	1.94E-05	8.50E-05	1.94E-05	8.50E-05
Barium (s)	4.40E-03	AP-42, Table 1.4-4	4.27E-04	1.87E-03	4.27E-04	1.87E-03
Benzene (f,s)	2.10E-03	AP-42, Table 1.4-3	2.04E-04	8.92E-04	2.04E-04	8.92E-04
Benzo(k)fluoranthene (s)	1.80E-06	AP-42, Table 1.4-3	1.75E-07	7.65E-07	1.75E-07	7.65E-07
Cadmium (f,s)	1.10E-03	AP-42, Table 1.4-4	1.07E-04	4.67E-04	1.07E-04	4.67E-04
Chromium (f,s)	1.40E-03	AP-42, Table 1.4-4	1.36E-04	5.95E-04	1.36E-04	5.95E-04
Cobalt (f,s)	8.40E-05	AP-42, Table 1.4-4	8.15E-06	3.57E-05	8.15E-06	3.57E-05
Copper (s)	8.50E-04	AP-42, Table 1.4-4	8.25E-05	3.61E-04	8.25E-05	3.61E-04
Dichlorobenzene (f,s)	1.20E-03	AP-42, Table 1.4-3	1.16E-04	5.10E-04	1.16E-04	5.10E-04
Formaldehyde (f,s)	7.50E-02	AP-42, Table 1.4-3	7.28E-03	3.19E-02	7.28E-03	3.19E-02
Hexane (f,s)	1.80E+00	AP-42, Table 1.4-3	1.75E-01	7.65E-01	1.75E-01	7.65E-01
Manganese (f,s)	3.80E-04	AP-42, Table 1.4-4	3.69E-05	1.54E-04	3.69E-05	1.54E-04
Mercury (f,s)	2.6E-04	AP-42, Table 1.4-4	2.41E-05	1.61E-04	2.41E-05	1.61E-04
Molybdenum (s)	1.10E-03	AP-42, Table 1.4-4	1.07E-04	4.67E-04	1.07E-04	4.67E-04
Naphthalene (f,s)	6.10E-04	AP-42, Table 1.4-3	5.92E-05	2.59E-04	5.92E-05	2.59E-04
Nickel (f,s)	2.10E-03	AP-42, Table 1.4-4	2.04E-04	8.92E-04	2.04E-04	8.92E-04
Polycyclic Organic	6.49E-07	WebFIRE, SCC	6.48E-05	2.84E-04	6.48E-05	2.84E-04

Pollutant	Emission Factor or Estimate lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Matter (POM)	lb/mmBtu	code 10200601				
Toluene (f,s)	3.40E-03	AP-42, Table 1.4-3	3.30E-04	1.44E-03	3.30E-04	1.44E-03
Vanadium as V2O5 (s)	4.11E-03	AP-42, Table 1.4-4 (adjusted)	3.99E-04	1.75E-03	3.99E-04	1.75E-03

Applicable Requirements for Boiler B40

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration methods
PM	NR 415.06(2)(a), Wis. Adm. Code	0.15 lb/mmBtu heat input	- B40 was constructed/last modified after April 1, 1972. - B40 is rated at less than 250 mmBtu per hour.	- Only burn natural gas. - It is expected that B40 will meet this limit because MTE is less than the limit.
Visible Emissions	NR 431.05, Wis. Adm. Code	20% opacity	- B40 was constructed after April 1, 1972.	Same as above
NO _x	ss. 285.63(1)(b), 285.65(3), and 285.65(7), Wis. Stats.	3.60 lb/hr	Limit was included in Permit 22-MMC-035 so that construction of B40 would not be subject to PSD review for NO _x .	- Use low NO _x or ultra-low NO _x burners - Use a flue gas recirculation system - Only burn natural gas - Conduct periodic tune-ups - It is expected that B40 will meet this limit because it will be equipped with low NO _x burners and a flue gas recirculation system.
NSPS	40 CFR Part 60, Subpart Dc	See Subpart Dc applicability table above. - It is expected that B40 will comply with the limits in Subpart Dc when operating as required under this subpart.		
Federal HAPs	40 CFR Part 63, Subpart DDDDD	See Subpart DDDDD applicability table above. - It is expected that B40 will comply with the requirements in Subpart DDDDD when operating as required under this subpart.		

Boiler B40 is also subject to the general emission limitations for sulfur dioxide, volatile organic compounds, and carbon monoxide in ss. NR 417.03, NR 419.03, and NR 426.03, Wis. Adm. Code respectively. The general limitations are included in Part II of the permit.

Changes for Boiler B40 in Renewal 74400810A-P30

1. Condition I.A.1.c.(2) from permit 22-MMC-035 will not be included in renewal 74400810A-P30, because it requires compliance with a condition I.A.3.c.(2) that does not exist.
2. In Renewal 74400810A-P30, NESHAP Subpart DDDDD requirements for Boiler B40 are located in Table WWW rather than in Section I.A.5. (as in construction permit 22-MMC-035).

5.3.2 Coating Operations, Paper Machines, and Repulper

The following table presents NESHAP applicability for the facility’s coating operations. Following the NESHAP table, this section includes emissions calculations, applicable requirements, and renewal changes for individual coating processes, paper machines, and the repulper.

Table 21. Federal Standard Applicability: NESHAP Subpart JJJJ	
NESHAP for Paper and Other Web Coating [40 CFR Part 63, Subpart JJJJ, as last amended 7/9/2020] (hereinafter subpart JJJJ)]	
Affected Source(s): Process P30, Stack S13, Control Device C08 - #3 Paper Coater with Thermal Oxidizer VOC controls, installed in 1970. Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NESHAP Section/Requirement	Applicability Description
(63.3290) <u>Applicability</u> (63.3300) <u>Affected Source</u>	Subpart JJJJ applies to each new and existing facility that is a major source of HAP, at which web coating lines are operated. The facility is a major source of HAP, and operates web coating lines P30 and P41. An <i>affected source</i> under s. 63.3300 is the collection of all web coating lines at the facility. An <i>existing affected source</i> under s. 63.3310 means any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in 40 CFR s. 63.2. Processes P30 and P41 were both constructed prior to September 13, 2000 and are considered together one <i>affected source</i> . Processes P30 and P41 are subject to the requirements in subpart JJJJ for <i>existing affected sources</i> .
(63.3310) <u>Definitions</u>	Terms used in subpart JJJJ and in section I.XXX.1. of the permit are defined in 40 CFR 63.3310.
(63.3320) <u>Emission Standards</u>	P30 and P41 are subject to the emission standards for existing affected sources under this section, and must demonstrate compliance using the procedures in 40 CFR s. 63.3370. The permittee must limit organic HAP emissions to the level specified below for all periods of operation, including startup, shutdown and malfunction (SSM). (1) No more than 5 percent of the organic HAP applied for each month; or (2) No more than 4 percent of the mass of coating materials applied for each month; or (3) No more than 20 percent of the mass of coating solids applied for each month; or (4) achieve an outlet organic HAP concentration of no greater than 20 ppmv on a dry basis, and a capture efficiency of 100%.
(63.3321) <u>Operating Limits</u>	This section does not apply to P41 because it does not have a control device. (a) applies to P30 because P30 uses a thermal oxidizer control device to comply with Subpart JJJJ. The operating limits in Items 1 and 3 of Table 1 to Subpart JJJJ apply. Item 2 of Table 1 does not apply because the control device is not a catalytic oxidizer. (b) does not apply because the facility does not use a control device other than a thermal or catalytic oxidizer, and does not monitor an alternative parameter.
(63.3330) <u>Compliance Dates</u>	(a) applies because P30 and P41 commenced construction prior to September 19, 2019. (b) does not apply because P30 and P41 are not a new affected source.

Table 21. Federal Standard Applicability: NESHAP Subpart JJJJ

NESHAP for Paper and Other Web Coating [40 CFR Part 63, Subpart JJJJ, as last amended 7/9/2020]
(hereinafter subpart JJJJ)]

Affected Source(s):

Process P30, Stack S13, Control Device C08 - #3 Paper Coater with Thermal Oxidizer VOC controls, installed in 1970.

Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
(63.3340) <u>General Requirements</u>	The general requirements in subpart JJJJ apply to P30 and P41.
(63.3350) <u>Monitoring requirements for control devices</u>	<p>This section does not apply to P41 because it does not have a control device.</p> <p>(a)(1), (3), and (4) apply to P30. Section 63.3350(a)(2) does not apply because the facility does not operate a solvent recovery unit.</p> <p>(b) applies to P30 because it has a control device.</p> <p>(c) applies to P30 because it has an intermittently-controlled work station, i.e. the dryer exhaust could be diverted from the control device.</p> <p>(d) does not apply because the facility does not have a solvent recovery unit.</p> <p>(e) applies to P30 because it uses a control device to comply with the standards in s. 63.3320. All parts of s. 63.3350(e) apply except for ss. 63.3350(e)(10)(iii) and 63.3350(e)(11). Section 63.3350(e)(10)(iii) does not apply because the facility does not have a catalytic oxidizer. Section 63.3350(e)(11) does not apply because the facility does not use a control device other than an oxidizer for P30.</p> <p>(f) applies to P30 because the facility complies with s. 63.3320 using a capture system and control device.</p>
(63.3360) <u>Performance Tests</u>	<p>(a)(1) applies to P41.</p> <p>(a)(2)(ii) applies to P30. Section (a)(2)(i) does not apply because the initial performance test has already been conducted. Section (a)(2)(iii) does not apply because P30 is not controlled by a catalytic oxidizer.</p> <p>(b) contains an exemption from performance testing for sources that meet one of the exemption criteria in ss. 63.3360(b)(1) through (3). The control device for P30 does not meet any of the listed exemption criteria, so this section is left blank in the permit.</p> <p>(c) applies to P41 because P41 does not use a control device to comply with s. 63.3320.</p> <p>(d) is a compliance option for P41 and is included in the draft permit.</p> <p>(e) applies to P30 because it uses an add-on control device to comply with s. 63.3320. The specific testing requirements in this section, and the requirements for establishing operating limits, are included as a paragraph-level citation.</p> <p>(f) contains methods for determining capture efficiency, and is included in the draft permit.</p> <p>(g) allows facilities to take into account volatile matter retained in the coated web when determining compliance with s. 63.3320. The facility does not account for volatile matter retained on the web, so this section is left blank in the permit.</p> <p>(h) does not apply because the facility does not use control devices in series.</p>
(63.3370) <u>Compliance Demonstration</u>	<p>(a) The facility may use any of the methods in ss. 63.3370(a)(1) through (8) to demonstrate compliance, except for ss. 63.3370(a)(4) and 63.3370(a)(6). Section 63.3370(a)(6) does not apply because the facility does not have multiple capture or control devices. In addition, the facility does not take into account volatile matter retained on the web, so the compliance option in s. 63.3370(a)(4) is not included in the draft permit.</p> <p>(b) The facility can use the as-purchased “compliant” coating materials option, and it is included in the draft permit.</p>

Table 21. Federal Standard Applicability: NESHAP Subpart JJJJ

NESHAP for Paper and Other Web Coating [40 CFR Part 63, Subpart JJJJ, as last amended 7/9/2020] (hereinafter subpart JJJJ)]

Affected Source(s):

Process P30, Stack S13, Control Device C08 - #3 Paper Coater with Thermal Oxidizer VOC controls, installed in 1970.

Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	<p>(c) The facility can use the as-applied “compliant” coating materials option, and it is included in the draft permit.</p> <p>(d) The facility can use the method for determining the monthly allowable organic HAP applied, and this option is included in the draft permit.</p> <p>(e) This section includes requirements that apply if the facility accounts for volatile matter retained in the coated web. The facility does not account for volatile matter retained on the web, so this section is left blank in the permit.</p> <p>(f) The option to operate a capture system and control device and demonstrate 95% overall organic HAP control efficiency is included in the draft permit.</p> <p>(g) This option is included in the draft permit. It requires the facility to operate a capture system and control device and demonstrate that organic HAP emissions are limited to no more than 0.20 kg organic HAP per kg coating solids applied.</p> <p>(h) This option is included in the draft permit. It requires the facility to operate a capture system and control device and demonstrate that organic HAP emissions are limited to no more than 0.04 kg organic HAP per kg coating material applied.</p> <p>(i) This option is included in the draft permit. It requires the facility to operate a capture system and control device and demonstrate that monthly organic HAP emissions are less than the calculated monthly allowable emission rate.</p> <p>(j) does not apply because the facility does not use a solvent recovery device.</p> <p>(k) applies and is included in the draft permit. It specifies methods for demonstrating capture and control system compliance using a CPMS.</p> <p>(l) specifies procedures for demonstrating compliance if an oxidizer is used to comply with Subpart JJJJ. This section applies to P30 and is included in the draft permit. Note that s. 63.3370(l)(2) in the CFR incorrectly references s. 63.3370(q)(1). The reference should be to s. 63.3370(l)(1). The draft permit contains the correct reference.</p> <p>(m) specifies how to calculate monthly allowable organic HAP emissions, when this compliance option is used. This section is included in the draft permit.</p> <p>(n) is reserved in Subpart JJJJ.</p> <p>(o) contains procedures for calculating organic HAP emissions and demonstrating compliance for never-controlled work stations (P41) and intermittently-controlled work stations (P30).</p> <p>(o)(1) and (2) do not apply because the facility does not use a solvent recovery device.</p> <p>(o)(3) through (6) apply to the facility and are included in the draft permit.</p> <p>(p) applies to the facility because s. 63.3370(o)(3)(iii)(B) applies.</p> <p>(q) does not apply because the facility does not have always-controlled work stations.</p> <p>(r) contains a mass-balance approach to compliance, as an alternative to ss. 63.3370(b) through (p). This section is included in the draft permit, except that . 63.3370(4)(2)(iii) is not included because the facility does not have always-controlled work stations.</p> <p>(s) does not apply because the facility retains the option to use coatings that have organic HAP contents above 0.1% for OSHA-defined carcinogens and above 1.0% for other organic HAP compounds.</p>

Table 21. Federal Standard Applicability: NESHAP Subpart JJJJ	
NESHAP for Paper and Other Web Coating [40 CFR Part 63, Subpart JJJJ, as last amended 7/9/2020] (hereinafter subpart JJJJ)]	
Affected Source(s): Process P30, Stack S13, Control Device C08 - #3 Paper Coater with Thermal Oxidizer VOC controls, installed in 1970. Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NESHAP Section/Requirement	Applicability Description
(63.3400) <u>Notifications and Reports</u>	(a) The permittee must submit notifications and reports according to the requirements of this section, as detailed below. (b) does not apply because the facility has submitted the required initial notifications. (c) applies to the facility. This section requires submittal of semiannual compliance reports. The permit includes the requirements of ss. 63.3400(c)(1)(iii) through (v); the facility has already submitted the first required compliance report called for in ss. 63.3400(c)(1)(i) and (ii). (d) applies because P30 uses a control device to comply with s. 63.3320. (e) applies and is included in the draft permit. (f) applies because P30 uses a control device to comply with s. 63.3320. (g) does not apply because the facility does not use CMS to measure pollutants emitted by P30 or P41. (h) Requirements for electronic reporting apply because the facility is required to submit semiannual compliance reports. (i) applies and is included in the draft permit. (j) is not included in the draft permit because the department does not put force majeure language in permits. (k) is not included in the draft permit because it pertains to startup, shutdown, and malfunction (SSM) reports and is no longer relevant after July 9, 2021.
(63.3410) <u>Records</u>	(a) applies and is included in the draft permit, except that s. 63.3410(a)(1)(i) does not apply because the facility does not continuously monitor emissions. (b) does not apply because the facility does not use a solvent recovery device. (c) applies to P30 because its control device has operating limits. (d) does not apply because P30 does not have a catalytic oxidizer. (e) applies and is included in the draft permit.
(63.3420) <u>Authorities delegated to States</u>	This section does not contain any applicable requirements for facilities and is not included in the draft permit.
Table 1	Item 1 in Table 1, operating limits for thermal oxidizers: the facility is required to comply with these operating limit requirements. Item 2 in Table 1, operating limits for catalytic oxidizers: does not apply because the facility does not have a catalytic oxidizer. Item 3 in Table 1, operating limits for capture systems: The facility is required to comply with these operating limit requirements.
Table 2	This table specifies what parts of the NESHAP General Provisions apply to sources subject to Subpart JJJJ. It is included in the draft permit.

D. Process P30, Stack S13, Control Device C08: #3 paper coater with thermal oxidizer, constructed 1970

Emissions Calculations for Process P30

Given:

- Process P30 was constructed in 1970.
- Heat input for natural gas-fired control device C08 is 25 mmBtu/hr.
- Air flow for Process P30 is 6587 acfm: round up to 6600 acfm
- PM limit from s. NR 415.05(1)(m) is 0.20 lb/1000 lb exhaust gas
- Maximum coating use capacity is 663,369 gallons per year, according to the facility.

PM emission limit: $6600 \text{ acfm} \times 0.075 \text{ lb/cf} \times 0.20 \text{ lb/1000 lb gas} \times (460 + 68)/(460 + 120) \times 60 \text{ min/hr} = 5.4 \text{ lb/hr}$

PM Limit for natural gas combustion in thermal oxidizer C08: $0.6 \text{ lb/mmBtu} \times 25 \text{ mmBtu/hr} = 15 \text{ lb/hr}$

VOC limit: $2.9 \text{ lb VOC/gallon coating} \times 663,369 \text{ gallons/year} \times 1 \text{ yr}/8760 \text{ hr} = 220 \text{ lb/hr}$

HAP emissions: HAP MTE is taken from the preliminary determination for original operation permit 744008100-P01. PTE is based on 95% reduction required by 40 CFR part 63, subpart JJJJ.

Pollutant	Emission Factor or Estimate, lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	Allowable, lb/hr
PM	7.6	AP-42, Table 1.4-2	0.19	0.81	0.19	0.81	NR 415.06(1)(a): 15 lb/hr NR 415.05(1)(m): 5.4 lb/hr Permit: 1.1 lb/hr
PM ₁₀	7.6	"	0.19	0.81	0.19	0.81	Permit: 1.1 lb/hr
PM _{2.5}	7.6	"	0.19	0.81	0.19	0.81	---
SO ₂	0.6	"	0.015	0.06	0.015	0.06	---
NO _x	100	AP-42, Table 1.4-1	2.44	10.7	2.44	10.7	---
VOC	MTE: 1,166 TPY VOCs applied PTE: 2.9 lb/gal	MTE: Facility information PTE: NR 422.07(2)	266	1,165	220	962	NR 422.07(2): 220 lb/hr
CO	84	AP-42, Table 1.4-1	2.05	8.98	2.05	8.98	---
lead	5.0E-04	AP-42, Table 1.4-2	1.2E-05	5.3E-05	1.2E-05	5.3E-05	---

Pollutant	Emission Factor or Estimate, lb/mmcf (except for toluene and xylene)	Source of Emission Factor or estimate	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Toluene (f,s) – from coating	266 lb/hr	MTE: Preliminary determination,	266	1,165	13.3	58.3

Table 23. Hazardous emissions from Process P30: 25 mmBtu per hour natural gas-fired control device C08, 0.0244 mmcf/hr						
Pollutant	Emission Factor or Estimate, lb/mmcf (except for toluene and xylene)	Source of Emission Factor or estimate	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
		744008100-P01 PTE: 95% reduction required by Subpart JJJJ				
Xylene (f,s) – from coating	51 lb/hr	MTE: Preliminary determination, 744008100-P01 PTE: 95% reduction required by Subpart JJJJ	51	224	2.55	11.2
Emissions from natural gas combustion						
Ammonia (s)	3.20E+00	WebFIRE, SCC 10200601	0.078	0.34	0.078	0.34
Arsenic (f,s)	2.00E-04	AP-42, Table 1.4-4	4.88E-06	2.14E-05	4.88E-06	2.14E-05
Barium (s)	4.40E-03	AP-42, Table 1.4-4	1.07E-04	4.70E-04	1.07E-04	4.70E-04
Benzene (f,s)	2.10E-03	AP-42, Table 1.4-3	5.12E-05	2.24E-04	5.12E-05	2.24E-04
Benzo(k)-fluoranthene (s)	1.80E-06	AP-42, Table 1.4-3	4.39E-08	1.92E-07	4.39E-08	1.92E-07
Cadmium (f,s)	1.10E-03	AP-42, Table 1.4-4	2.68E-05	1.18E-04	2.68E-05	1.18E-04
Chromium (f,s)	1.40E-03	AP-42, Table 1.4-4	3.42E-05	1.50E-04	3.42E-05	1.50E-04
Cobalt (f,s)	8.40E-05	AP-42, Table 1.4-4	2.02E-06	8.83E-06	2.02E-06	8.83E-06
Copper (s)	8.50E-04	AP-42, Table 1.4-4	2.07E-05	9.08E-05	2.07E-05	9.08E-05
Dichlorobenzene (f,s)	1.20E-03	AP-42, Table 1.4-3	2.93E-05	1.28E-04	2.93E-05	1.28E-04
Formaldehyde (f,s)	7.50E-02	AP-42, Table 1.4-3	1.83E-03	8.02E-03	1.83E-03	8.02E-03
Hexane (f,s)	1.80E+00	AP-42, Table 1.4-3	0.044	0.19	0.044	0.19
Manganese (f,s)	3.80E-04	AP-42, Table 1.4-4	9.27E-06	4.06E-05	9.27E-06	4.06E-05
Mercury (f,s)	2.6E-04	AP-42, Table 1.4-4	6.34E-06	2.78E-05	6.34E-06	2.78E-05
Molybdenum (s)	1.10E-03	AP-42, Table 1.4-4	2.68E-05	1.18E-04	2.68E-05	1.18E-04
Naphthalene (f,s)	6.10E-04	AP-42, Table 1.4-3	1.49E-05	6.52E-05	1.49E-05	6.52E-05
Nickel (f,s)	2.10E-03	AP-42, Table 1.4-4	5.12E-05	2.24E-04	5.12E-05	2.24E-04
Polycyclic Organic Matter (POM) (f)	6.49E-07 lb/mmBtu	WebFIRE, SCC code 10200601	1.62E-05	7.11E-05	1.62E-05	7.11E-05
Vanadium as V ₂ O ₅ (s)	4.11E-03	AP-42, Table 1.4-4 (adjusted)	1.00E-04	4.39E-04	1.00E-04	4.39E-04

Applicable Requirements for Process P30

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
PM	s. NR 415.05(1)(m), Wis. Adm. Code	0.20 lb/1000 lb gas	- Coatings in P30 are dried using natural gas-fired dryers. The limit in s. NR 415.05(1)(m) applies to drying operations. - P30 was constructed before 4/1/1972.	- It is expected that P30 will meet the limit because the calculated MTE is less than the limit. PM emissions are not expected from the coating application itself.
PM	s. NR 415.06(1)(a), Wis. Adm. Code	0.60 lb/mmBtu heat input	- P30 includes natural gas-fired combustion units: dryers and a thermal oxidizer. - P30 was constructed before 4/1/1972.	- Only burn natural gas as a fuel - P30 is expected to meet this emission limit because calculated MTE is less than the limit. Natural gas is a clean-burning fuel.
PM	s. NR 407.09(2)(d)3., Wis. Adm. Code	1.1 lb/hr	Limit was included in previous permits. Retained to avoid triggering the need for a construction permit.	Same as above
Visible Emissions	NR 431.04(1), Wis. Adm. Code	40% opacity	P30 was constructed before 4/1/1972.	Same as for PM
VOCs	s. NR 422.07(2), Wis. Adm. Code	2.9 lb VOC per gallon coating, excluding water	- P30 is a paper coating line.	- Operate a thermal oxidizer and capture system - It is expected that P30 will meet the emission limit when the thermal oxidizer is complying with the operational requirements in the permit, because stack test results show compliance with the limit.
Federal HAP	40 CFR Part 63, Subpart JJJJ	See Subpart JJJJ applicability table below. - Stack testing shows P30 meets the Subpart JJJJ limits. - It is expected that P30 will comply with the limits in Subpart JJJJ when operating as required under this subpart, because stack test results show compliance with the limit.		

Process P30 is also subject to the general emission limitations for sulfur dioxide, carbon monoxide, and nitrogen oxides in ss. NR 417.03, NR 426.03, and NR 428.03, Wis. Adm. Code, respectively. The general limitations will be included in Part II of the permit.

Changes for Process P30 in Renewal 74400810A-P30

Particulate matter: Format of conditions for particulate matter emission limits was updated to the current standard format. The emission limit in s. NR 415.06(1)(a), Wis. Adm. Code, was added because Process P30 is a fuel burning installation as well as a process line.

E. Stack S20, Process P40 - Paper Machines #6, #7, #8 and #9

Emissions Calculations for Process P40

Particulate matter allowable emissions:

NR 415.05(1)(o):

- #6: 164,000 acfm
- #7: 272,000 acfm
- #8: 126,000 acfm
- #9: 233,000 acfm

- #6: $0.40 \text{ lb}/1000 \text{ lb} \times 164,000 \text{ acf}/\text{m} \times 0.075 \text{ lb}/\text{cf} \times (460+68)/(460+105) \times 60 \text{ min}/\text{hr} = 276 \text{ lb}/\text{hr}$
- #7: $0.40 \text{ lb}/1000 \text{ lb} \times 272,000 \text{ acf}/\text{m} \times 0.075 \text{ lb}/\text{cf} \times (460+68)/(460+105) \times 60 \text{ min}/\text{hr} = 458 \text{ lb}/\text{hr}$
- #8: $0.40 \text{ lb}/1000 \text{ lb} \times 126,000 \text{ acf}/\text{m} \times 0.075 \text{ lb}/\text{cf} \times (460+68)/(460+105) \times 60 \text{ min}/\text{hr} = 212 \text{ lb}/\text{hr}$
- #9: $0.40 \text{ lb}/1000 \text{ lb} \times 233,000 \text{ acf}/\text{m} \times 0.075 \text{ lb}/\text{cf} \times (460+68)/(460+105) \times 60 \text{ min}/\text{hr} = 392 \text{ lb}/\text{hr}$

NR 415.05(2):

Paper production rates are:

- #6: 3.75 tons paper per hour (TPH)
- #7: 9.58 TPH
- #8: 4.17 TPH
- #9: 10.4 TPH

Pulp slurry fed into the paper machines is 0.5% solids and 99.5% water. Process weight rates in the following table are calculated by dividing the tons of finished product per hour by 0.5%.

The limit in s. NR 415.05(2), Wis. Adm. Code, is more restrictive:

Table 25. Allowable PM emissions based on s. NR 415.05(2), Wis. Adm. Code				
Paper Machine	paper production rate, tph	process weight rate, tph, pulp input = paper production ÷ 0.5%	Applicable process weight rate equation	Allowable emissions, lb/hr
#6	3.75	750	$E = 17.31P^{0.16}$	50
#7	9.58	1,916	$E = 17.31P^{0.16}$	58
#8	4.17	834	$E = 17.31P^{0.16}$	51
#9	10.4	2,080	$E = 17.31P^{0.16}$	59
Total, all paper machines				218

VOC emissions:

Cleanup solvent use on the paper machines was formerly treated as a separate process P38, with emissions of 14 pounds per hour. In Renewal 74400810A-P30, P38 emissions and activities will be included under Process P40.

The facility estimated VOC emissions from paper machines using the paper grade that produces the highest emissions.

- Paper machine #6: 39.14 lb VOC/hr
- Paper machine #7: 49.92 lb VOC/hr

Paper machine #8: 39.14 lb VOC/hr (assume same as #6)
 Paper machine #9: 0 lb VOC/hr (#9 does not produce this paper grade)
 Cleanup solvent use: 14 lb VOC/hr

Total: 142.2 lb VOC/hr

Formaldehyde PTE:

760,419 lb resin/month x 2% free formaldehyde x 8.9% evaporation rate x 12 months/yr x 1 ton/2000 lb
 = 8.12 TPY ==> 1.85 lb/hr average

Table 26. Criteria and hazardous pollutant emissions from Process P40: total paper production capacity 27.9 air dried tons paper per hour (ADTP/hr)							
Pollu-tant	Emission Factor or Estimate, lb/ADTP	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	Wis. Adm. Code Allowable, lb/hr
PM	0.04	NCASI	1.12	4.89	1.12	4.89	218
PM ₁₀	0.04	NCASI	1.12	4.89	1.12	4.89	---
VOC	142.2 lb/hr	NCASI; facility estimates	142	623	142	623	---
Acetaldehyde (f,s)	0.03	Preliminary Determination (PD) for permit 99-MDW-717	0.84	3.67	0.84	3.67	---
Formaldehyde (f,s)	MTE: 5.23 lb/hr PTE: See calculation above	PD for permit 99-MDW-717	5.23	22.91	1.85	8.12	---
Methanol (f)	3.30E-02	NCASI	0.92	4.03	0.92	4.03	---
Phenol (f,s)	1.10E-02	NCASI	0.31	1.34	0.31	1.34	---
Propion-aldehyde (f)	7.90E-03	NCASI	0.22	0.97	0.22	0.97	---

Applicable Requirements for Process P40

Table 27. Applicable Emission Limitations for Process P40				
Pollutant	Applicable Citation	Applicable Limit	Reason limit applies	Compliance demonstration, monitoring, and recordkeeping methods
PM	ss. NR 415.05(1)(o) and 415.05(2), Wis. Adm. Code	0.40 lb/1000 lb gas E=17.31P ^{0.16}	- P40 was last modified after 4/1/1972. - P40 is not in a source category listed in ss. NR 415.05(1)(a) – (n). - For each paper machine in P40, process weight rate is greater	- Routine cleaning of paper machine areas - P40 is expected to meet the limits because calculated MTE is less than the limits.

Table 27. Applicable Emission Limitations for Process P40				
Pollutant	Applicable Citation	Applicable Limit	Reason limit applies	Compliance demonstration, monitoring, and recordkeeping methods
			than 60,000 pounds per hour.	
Visible Emissions	s. NR 431.05, Wis. Adm. Code	20% opacity	P40 was constructed after 4/1/1972.	Same as for PM
VOCs	s. NR 424.03(2)(c), Wis. Adm. Code	LACT: Current operating practices	- P40 is a process line. - P40 was last modified in 1999 - after 4/1/1972. - 85% control was determined to be technologically infeasible.	- keep records of VOC content of each chemical additive and cleanup solvent. - keep records of Environmental Department approval of new papermaking additives or paper machine cleaning materials - P40 is expected to comply with the limit by keeping the required records.
Formaldehyde	s. NR 445.08(2)(f), Wis. Adm. Code s. 285.65(7), Wis. Stats.	NR 445 BACT: - maximum formaldehyde content of 2.0% for wet strength resins - use wet strength resins only on 1 paper machine at a time - Limit wet strength resin use to 760,419 pounds per 12-month period	- Construction permit 99-MDW-717 established formaldehyde BACT requirements. - Facility elected this limit to avoid construction permit requirements.	- keep records of wet strength resin formaldehyde content - keep monthly and total 12-month records for wet strength resin use - P40 is expected to comply with the limits by adhering to the limits and keeping the required records.
Acetaldehyde	s. NR 445.08(2)(a), Wis. Adm. Code	- Limit acetaldehyde emissions to less than 7900 pounds per 12-month period	P40 has emissions of acetaldehyde. The facility complies with NR 445 by limiting emissions to less than the acetaldehyde Table A threshold for stacks 40-75 feet.	- keep records of acetaldehyde emissions from use of solvents and additives - P40 is expected to comply by adhering to the limit and keeping the required records.

Changes for Process P40 in Renewal 74400810A-P30

- VOCs: In Renewal 74400810A-P30, Process P38 (solvent cleaning on the paper machines) will be combined with Process P40 (paper machines #6, #7, #8, and #9).
- VOCs: Compliance demonstration requirements for the LACT limit from Permit 99-MDW-717-OP-P20 will be revised as described in Section 5.2.3.
- Acetaldehyde: Current permit 74400810A-P30 contains the following condition I.F.3.a.(2):

“(2) *Minimize, when possible, the use of solvents or additives containing acetaldehyde applied at the paper machines.²¹ [s. NR *445.08(2)(a), Wis. Adm. Code; est. in 744008100-P10]*”

²¹This condition is included in the permit to limit the potential to emit for acetaldehyde to less than 7900 pounds per year for stacks 40 to 75 feet tall.”

This condition does not really limit acetaldehyde emissions, and there is no real way for the facility to show how it is complying. This condition will not be included in Renewal 74400810A-P30.

4. The visible emission limitation for P40 will be added in Renewal 74400810A-P30.

F. Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995

Emissions Calculations for Process P41

The coatings used in Process P41 contain only small amounts of VOCs. Data about VOCs from coatings is taken from the 2022 Emissions Inventory.

According to Renewal 744008100-P20, the drying oven for P41 is rated at 8 mmBtu/hr.

ACFM:19,979 acfm

NR 415.05(1)(m):

$$0.20 \text{ lb}/1000 \text{ lb} \times 0.075 \text{ lb}/\text{cf} \times 19,979 \text{ acfm} \times 60 \text{ min}/\text{hr} = 18.0 \text{ lb}/\text{hr}$$

NR 415.05(2): Assume that all paper produced at the facility could be coated in Process P41.

$$\text{Total paper production weight} = 3.75 \text{ TPH} + 9.58 \text{ TPH} + 4.17 \text{ TPH} + 10.4 \text{ TPH} = 27.9 \text{ TPH}$$

$$\text{Emission limit} = 3.59(P)^{0.62} = 3.59(27.9)^{0.62} = 4.41 \text{ lb}/\text{hr} \implies \text{More restrictive limit}$$

$$\text{VOC: Maximum } 6 \text{ lb}/\text{hr} \implies 26.28 \text{ TPY}$$

$$\text{Allowable, per s. NR422.07: } 89,171 \text{ gallons}/\text{year maximum} \times 2.9 \text{ lb}/\text{gal} \div 8760 \text{ hr}/\text{yr} = 29.5 \text{ lb}/\text{hr}$$

Table 28. Criteria pollutant emissions from Process P41: 8 mmBtu per hour natural gas-fired drying oven							
Pollutant	Emission Factor or Estimate, lb/mmcf (except VOC)	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	Wis. Adm. Code Allowable, lb/hr
PM	7.6	AP-42, Table 1.4-2	0.061	0.27	0.061	0.27	NR 415.06(1)(a): 1.2 lb/hr NR 415.05(1)(m): 18 lb/hr NR 415.05(2): 4.41 lb/hr
PM ₁₀	7.6	"	0.061	0.27	0.061	0.27	Permit: 0.45 lb/hr
PM _{2.5}	7.6	"	0.061	0.27	0.061	0.27	---
SO ₂	0.6	"	0.0048	0.021	0.0048	0.021	---
NO _x	100	AP-42, Table 1.4-1	0.8	3.5	0.8	3.5	---
VOC	6 lb/hr	Emissions inventory	6	26	6	26	NR 422.07(2): 29.5

Pollutant	Emission Factor or Estimate, lb/mmcf (except VOC)	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY	Wis. Adm. Code Allowable, lb/hr
							lb/hr
CO	84	AP-42, Table 1.4-1	0.67	2.9	0.67	2.9	---
lead	5.0E-04	AP-42, Table 1.4-2	4.0E-06	1.8E-05	4.0E-06	1.8E-05	---

Pollutant	Emission Factor or Estimate, lb/mmcf	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Ammonia (s)	3.20E+00	WebFIRE, SCC 10200601	2.56E-02	1.12E-01	2.56E-02	1.12E-01
Arsenic (f,s)	2.00E-04	AP-42, Table 1.4-4	1.60E-06	7.01E-06	1.60E-06	7.01E-06
Barium (s)	4.40E-03	AP-42, Table 1.4-4	3.52E-05	1.54E-04	3.52E-05	1.54E-04
Benzene (f,s)	2.10E-03	AP-42, Table 1.4-3	1.68E-05	7.36E-05	1.68E-05	7.36E-05
Benzo(k)fluoranthene (s)	1.80E-06	AP-42, Table 1.4-3	1.44E-08	6.31E-08	1.44E-08	6.31E-08
Cadmium (f,s)	1.10E-03	AP-42, Table 1.4-4	8.80E-06	3.85E-05	8.80E-06	3.85E-05
Chromium (f,s)	1.40E-03	AP-42, Table 1.4-4	1.12E-05	4.91E-05	1.12E-05	4.91E-05
Cobalt (f,s)	8.40E-05	AP-42, Table 1.4-4	6.72E-07	2.94E-06	6.72E-07	2.94E-06
Copper (s)	8.50E-04	AP-42, Table 1.4-4	6.80E-06	2.98E-05	6.80E-06	2.98E-05
Dichlorobenzene (f,s)	1.20E-03	AP-42, Table 1.4-3	9.60E-06	4.20E-05	9.60E-06	4.20E-05
Formaldehyde (f,s)	7.50E-02	AP-42, Table 1.4-3	6.00E-04	2.63E-03	6.00E-04	2.63E-03
Hexane (f,s)	1.80E+00	AP-42, Table 1.4-3	1.44E-02	6.31E-02	1.44E-02	6.31E-02
Manganese (f,s)	3.80E-04	AP-42, Table 1.4-4	3.04E-06	1.33E-05	3.04E-06	1.33E-05
Mercury (f,s)	2.6E-04	AP-42, Table 1.4-4	2.08E-06	9.11E-06	2.08E-06	9.11E-06
Molybdenum (s)	1.10E-03	AP-42, Table 1.4-4	8.80E-06	3.85E-05	8.80E-06	3.85E-05
Naphthalene (f,s)	6.10E-04	AP-42, Table 1.4-3	4.88E-06	2.14E-05	4.88E-06	2.14E-05
Nickel (f,s)	2.10E-03	AP-42, Table 1.4-4	1.68E-05	7.36E-05	1.68E-05	7.36E-05
Polycyclic Organic Matter (POM)	6.49E-07 lb/mmBtu	WebFIRE, SCC code 10200601	5.19E-06	2.27E-05	5.19E-06	2.27E-05
Toluene (f,s)	3.40E-03	AP-42, Table 1.4-3	2.72E-05	1.19E-04	2.72E-05	1.19E-04
Vanadium as V ₂ O ₅ (s)	4.11E-03	AP-42, Table 1.4-4 (adjusted)	3.29E-05	1.44E-04	3.29E-05	1.44E-04

Applicable Requirements for Process P41

Table 30. Applicable Emission Limitations for Process P41				
Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
PM	ss. NR 415.05(1)(m) and 415.05(2), Wis. Adm. Code	0.20 lb/1000 lb gas $E=3.59P^{0.62}$	- Coatings in P41 are dried using natural gas-fired dryers. The limit in s. NR 415.05(1)(m) applies to drying operations. - P41 was constructed after 4/1/1972.	- It is expected that P41 will meet the limit because the calculated MTE is less than the limit. PM emissions are not expected from the coating application itself.
PM	s. NR 415.06(2)(a), Wis. Adm. Code	0.15 lb/mmBtu heat input	- P41 includes combustion units: natural gas-fired dryers and thermal oxidizer. - P41 was constructed after 4/1/1972	- Only burn natural gas as a fuel - P41 is expected to meet this emission limit because calculated MTE is less than the limit. Natural gas is a clean-burning fuel.
PM ₁₀	ss. 285.63(1)(b) and 285.65(3), Wis. Stats.	0.45 lb/hr	- Dispersion modeling predicted compliance with the PM ₁₀ NAAQS given this limit.	Same as for PM
Visible Emissions	s. NR 431.05, Wis. Adm. Code	20% opacity	P41 was constructed after 4/1/1972.	Same as for PM
VOCs	s. NR 422.07(2), Wis. Adm. Code	2.9 lb VOC per gallon coating, excluding water	- P41 is a paper coating line.	- Keep records of coating VOC content. - It is expected that the VOC limit will be met, because the coatings used do not contain VOCs.
VOC	40 CFR Part 60, Subpart RR	See Subpart RR applicability table below. - P41 is exempt from the VOC limit in Subpart RR provided it stays below the VOC input limit of 50 tons VOC per 12 month period, and keeps required records. - It is expected that P41 will comply with the limit by keeping the required records, because the coatings used do not contain VOC.		
Federal HAP	40 CFR Part 63, Subpart JJJJ	See Subpart JJJJ applicability table above. - It is expected that P41 will comply with the limits in Subpart JJJJ when operating as required under this subpart, because the coatings used contain no VOCs.		

Process P41 is also subject to the general emission limitations for sulfur dioxide, carbon monoxide, and nitrogen oxides in ss. NR 417.03, NR 426.03, and NR 428.03, Wis. Adm. Code, respectively. The general limitations are included in Part II of the permit.

Table 31. Federal Standard Applicability: NSPS Subpart RR	
NSPS for Pressure Sensitive Tape and Label Coating Operations [40 CFR Part 60, Subpart RR, as last amended 10/17/2000] (hereinafter subpart RR)	
Affected Source(s):	
Process P41, Stack S16 — # 4 Paper Coater, constructed or last modified in 1995	
<i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i>	
NSPS Section/Requirement	Applicability Description
(1) Operating Requirements	As noted below, P41 is not subject to the emission limits in s. 60.442 provided that the VOC input to the coating process is 50 tons of VOC or less per 12 month period. The permit contains operating requirements restricting VOC emissions to this level.
(60.440) <u>Applicability and designation of affected facility</u>	Process P41 is an affected facility under Subpart RR because it is a coating line used in the manufacture of pressure sensitive tape and label materials, and was constructed or last modified after December 30, 1980. Per s. 60.440(b), P41 is not subject to the emission limits in s. 60.442(a) because it inputs to the coating process 50 tons or less of VOC per 12 month period. However, P41 is subject to all other applicable requirements of Subpart RR, as described below.
(60.441) <u>Definitions and symbols</u>	The terms used in Subpart RR are defined in the Clean Air Act, in 40 CFR Part 60 Subpart A (NSPS General Provisions), and in s. 60.441. This section is included in the draft permit as a paragraph level citation.
(60.442) <u>Standard for volatile organic compounds</u>	The VOC standards in s. 60.442 do not apply to P41 because it inputs less than 50 tons of VOC per 12 month period to the coating process.
(60.443) <u>Compliance provisions</u>	This section does not apply to P41 because it is not subject to the VOC standards in s. 60.442.
(60.444) <u>Performance test procedures</u>	This section does not apply to P41 because it is not subject to the VOC standards in s. 60.442.
(60.445) <u>Monitoring of operations and recordkeeping</u>	(a) applies to P41. This section requires the facility to maintain a calendar month record of all coatings used, and their VOC contents. (b) and (c) do not apply to P41 because P41 is not controlled by a solvent recovery device. (d) applies to P41 because it operates as required in s. 60.440(b) in order to be exempt from the VOC standards in s. 60.442. This section requires the facility to maintain a 12 month record of the solvent applied in the coatings used in P41. (e), (f), and (g) do not apply to P41 because it is not controlled by a solvent destruction device. (h) applies to P41 because the facility is required to keep the records specified in ss. 60.445(a) and (d). This section requires the facility to keep records of the measurements in ss. 60.445(a) and (d) for at least two years following the date of the measurement.
(60.446) <u>Test methods and procedures</u>	(a) applies to P41 because it is referenced by s. 60.445. This section requires use of Method 24 or manufacturer’s formulation data to determine the VOC content of coatings. In the permit, this section is edited to remove references to the VOC emission standards in s. 60.442, which do not apply to P41. (b) and (c) do not apply to P41 because the VOC standards in s. 60.442 do not apply.
(60.447) <u>Reporting requirements</u>	This section does not apply to P41 because it is not subject to the VOC standards in s. 60.442.

G. Process P42, Stack S36 — Shark Broke Repulper for Producing Sterilizable Grade Stock, installed in 1995

Emissions Calculations for Process P42

Table 32. Criteria and hazardous pollutant emissions from P42						
Pollutant	Emission Factor or Estimate	Source of Emission Factor or Estimate	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
VOC	MTE: 791 lb/yr (as chloroform) PTE: 79.2 lb/yr (permit limit for chloroform)	PD for Permit 744008100-P01 PTE established in Permit 744008100-P10	0.09	0.40	0.09	0.04
Chloroform	MTE: 791 lb/yr PTE: 79.2 lb/yr (permit limit)	Application for Permit 744008100-P01 Permit 744008100-P22	0.09	0.40	0.09	0.04

Applicable Requirements for Process P42

Table 33. Applicable Emission Limitations for P42				
Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
Chloroform	ss. NR 445.07(1)(c) and NR 445.08(2)(a), Wis. Adm. Code	79.2 pounds in any consecutive 12-month period	- Process emits chloroform from a stack that is not vertical and 34 feet high. The limit is ¼ of the NR 445 Table A threshold value for stacks between 25 and 40 feet in height.	- Keep monthly and 12-month records of the amount of chloroform emitted. - P42 is expected to comply by keeping the required records.

Changes for Process P42 in Renewal 74400810A-P30

VOCs: Current permit 744008100-P22 contains VOC requirements for Process P42. The facility no longer manufactures the paper grades on which earlier VOC emissions estimates were based. In addition, the facility does not use clean-up solvents or any other VOC-containing additives in this process. Since the VOC MTE is below the significance level in Table 3 of ch. NR 407, Wis. Adm. Code, specific requirements for VOCs will not be included for Process P42 in Renewal 74400810A-P30. Process P42 will be subject to the general VOC requirements in s. NR 419.03, Wis. Adm. Code, which will be in Part II of Renewal 74400810A-P30.

5.3.3 Miscellaneous Processes

H. Process F96 — Disinfection of Intake Water

Emissions Calculations for Process F96

Table 34. Criteria and hazardous pollutant emissions from F96: 10 million gallons (MG) water treated per day						
Pollutant	Emission Factor	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
VOC (as chloroform)	0.0034 lb/MG	EPA Locating and Estimating (L&E) document EPA-450/4-84-007c	0.0014	0.006	0.0014	0.006

Pollutant	Emission Factor	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
Chloroform	0.0034 lb/MG	EPA L&E document EPA-450/4-84-007c	0.0014	0.006	0.0014	0.006

Applicable requirements for Process F96

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
Chloroform	s. NR 445.07(5)(d)2., Wis. Adm. Code	Exempt from the requirements of ch. NR 445, Wis. Adm. Code	Emissions from F96 are indoor fugitive emissions.	- Keep records showing compliance with OSHA requirements for chloroform - It is expected that F96 will demonstrate exemption from the requirements of ch. NR 445 by keeping the required records.

I. Process F98 — Miscellaneous Natural Gas-Fired Make-up Air Units, including Paper Machine #9, Roll floor and Supercalender Ovens (1999)

Emissions Calculations for Process F98

According to the preliminary determination for Renewal 744008100-P20, no individual unit in Process F98 has a heat input greater than 9 mmBtu per hour.

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
PM	7.6 pounds per million cubic feet (lb/mmcf)	AP-42, Table 1.4-2	0.93	4.06	0.93	4.06
PM ₁₀	7.6 lb/mmcf	AP-42, Table 1.4-2	0.93	4.06	0.93	4.06
PM _{2.5}	7.6 lb/mmcf	AP-42, Table 1.4-2	0.93	4.06	0.93	4.06
SO ₂	0.6 lb/mmcf	AP-42, Table 1.4-2	0.07	0.32	0.07	0.32
NO _x	100 lb/mmcf	AP-42, Table 1.4-1 (small boilers)	12.2	53.4	12.2	53.4
VOC	5.5 lb/mmcf	AP-42, Table 1.4-2	0.67	2.94	0.67	2.94
CO	84 lb/mmcf	AP-42, Table 1.4-1	10.2	44.9	10.2	44.9
lead	5.0E-04 lb/mmcf ⁸	AP-42, Table 1.4-2	6.1E-05	2.7E-04	6.1E-05	2.7E-04

⁸ This emission factor is presented in scientific notation. "5.0E-04" means 5.0 x 10⁻⁴, or 0.0005.

Compound	Emission factor (lb/mmcf)	Source of Emission Factor	MTE lb/hr	MTE TPY	PTE lb/hr	PTE TPY
Ammonia (s)	3.2	WebFIRE, SCC code 1-02-006-01	3.91E-01	1.71E+00	3.91E-01	1.71E+00
Arsenic (f,s)	2.00E-04	AP-42 Table 1.4-4	2.44E-05	1.07E-04	2.44E-05	1.07E-04
Barium (s)	4.40E-03	AP-42 Table 1.4-4	5.38E-04	2.36E-03	5.38E-04	2.36E-03
Benzene (f,s)	2.10E-03	AP-42 Table 1.4-3	2.57E-04	1.12E-03	2.57E-04	1.12E-03
Beryllium (f,s)	1.20E-05	AP-42 Table 1.4-4	1.46E-06	6.41E-06	1.46E-06	6.41E-06
Cadmium (f,s)	1.10E-03	AP-42 Table 1.4-4	1.34E-04	5.89E-04	1.34E-04	5.89E-04
Chromium (total) (f,s)	1.40E-03	AP-42 Table 1.4-4	1.71E-04	7.49E-04	1.71E-04	7.49E-04
Cobalt (f,s)	8.40E-05	AP-42 Table 1.4-4	1.03E-05	4.50E-05	1.03E-05	4.50E-05
Copper (s)	8.5E-04	AP-42 Table 1.4-4	1.04E-04	4.55E-04	1.04E-04	4.55E-04
Dichlorobenzene (f,s)	1.20E-03	AP-42, Table 1.4-3	1.46E-04	6.41E-04	1.46E-04	6.41E-04
Formaldehyde (f,s)	7.50E-02	AP-42 Table 1.4-3	9.17E-03	4.02E-02	9.17E-03	4.02E-02
Hexane (f,s)	1.80E+00	AP-42 Table 1.4-3	2.20E-01	9.64E-01	2.20E-01	9.64E-01
Manganese (f,s)	3.80E-04	AP-42 Table 1.4-4	4.64E-05	2.03E-04	4.64E-05	2.03E-04
Mercury (f,s)	2.60E-04	AP-42 Table 1.4-4	3.18E-05	1.39E-04	3.18E-05	1.39E-04
Molybdenum (s)	1.10E-03	AP-42, Table 1.4-4	1.34E-04	5.88E-04	1.34E-04	5.88E-04
Naphthalene (f,s)	6.10E-04	AP-42, Table 1.4-3	7.44E-05	3.26E-04	7.44E-05	3.26E-04
Nickel (f,s)	2.10E-03	AP-42 Table 1.4-4	2.57E-04	1.12E-03	2.57E-04	1.12E-03
POM, including PAH (f)	8.82E-05	AP-42 Table 1.4-3 (sum of all POM species)	1.08E-05	4.71E-05	1.08E-05	4.71E-05
Toluene (f,s)	3.4E-03	AP-42 Table 1.4-3	4.16E-04	1.82E-03	4.16E-04	1.82E-03
Vanadium pentoxide (s)	4.11E-03	AP-42 Table 1.4-4 (adjusted)	5.01E-04	2.20E-03	5.01E-04	2.20E-03

V₂O₅ adjustment for natural gas: 2.3E-03 lb/mmcf x [(50.94 + 5/2(16))/50.94] = 4.11E-03 lb/mmcf

Applicable Requirements for Process F98

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
PM	s. NR 415.06(1)(a), Wis. Adm. Code for units constructed before 4/1/1972	0.6 lb/mmBtu heat input	- Units are fuel burning installations. - Units were constructed before 4/1/1972.	- Keep monthly records of the type and amount of fuel burned - It is expected that units constructed before 4/1/1972 will comply with the limit by burning only natural gas, because natural gas is a clean burning fuel
PM	s. NR 415.06(2)(a), Wis. Adm. Code for	0.15 lb/mmBtu heat input	- Supercalender ovens are fuel burning installations. - Supercalender ovens were constructed after 4/1/1972	- Keep monthly records of the type and amount of fuel burned - It is expected that supercalender ovens will

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
	supercalender ovens			comply with the limit by burning only natural gas, because natural gas is a clean burning fuel

Process F98 is also subject to the general emission limitations for sulfur dioxide, organic compound, carbon monoxide, and nitrogen oxides in ss. NR 417.03, NR 419.03, NR 426.03, and NR 428.03, Wis. Adm. Code, respectively. The general limitations are included in Part II of the permit.

J. Process F99 — Wastewater Treatment

Emissions Calculations for Process F99

Chloroform emissions from F99 come from the occasional use of chlorine bleach to control filamentous bacteria. Chlorine bleach is only used for this purpose when other control options do not work.

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, pounds per hour (lb/hr)	MTE, tons/year (TPY)	PTE, lb/hr	PTE, TPY
VOC (as chloroform)	0.002 lb/hr	Facility estimate	0.002	0.0088	0.002	0.0088
Chloroform	0.002 lb/hr	Facility estimate	0.002	0.0088	0.002	0.0088

Applicable Requirements for Process F99

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
Chloroform	s. NR 445.07(5)(d)2., Wis. Adm. Code	Exempt from the requirements of ch. NR 445, Wis. Adm. Code	Emissions from F99 are less than 4 times the Table A chloroform threshold value for stacks less than 25 feet in height. (see Section 6 for additional details)	- Keep records showing monthly and annual chloroform emissions - It is expected that F99 will demonstrate exemption from the requirements of ch. NR 445 by keeping the required records.

K. Stack S60, Process P60 — Heptane Mix Tank, constructed or last modified in 2011

Emissions Calculations for Process P60

The facility used the Evaporative Loss equation from Appendix G of EPA’s “Technical Guidance for Hazards Analysis to estimate VOC emissions (heptane). The only emissions are from heptane, which is not a HAP.

Pollutant	Source of Emission Estimate	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
VOC	Facility	1.2	5.24	1.2	5.24

Applicable Requirements for Process P60

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
VOCs	s. NR 424.03(2)(c), Wis. Adm. Code	LACT: - Keep tank cover closed - minimize VOC emissions when cleaning tank - inspect tank and fittings once per year - repair leaks as soon as practicable	- Process was constructed after 4/1/1972. - Process manufactures or modifies a product. - VOC emissions are greater than 15 pounds in any day. - 85% control was determined to be technologically infeasible in the review for Permit 744008100-P20.	- Post a sign with operating requirements - Keep records of yearly inspections and repairs performed - It is expected that P60 will comply with the requirements by performing the required inspections and repairs and posting required sign.

L. Stack S61, Process P61 – 110 Brake Horsepower diesel-fired emergency fire pump, constructed or last modified in 1995.

Emissions calculations for Process P61

Given:

Capacity: 110 horsepower-hour (hp/hr), or 0.77 mmBtu/hr

Annual MTE is based on operation for 500 hours per year.

Annual PTE is based on operation for 200 hours per year.

Sample Calculation, NO_x:

MTE and PTE: $110 \text{ HP} \times 0.031 \text{ lb/hp-hr} = 3.4 \text{ lb/hr}$; $3.4 \text{ lb/hr} \times 500 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lb} = 0.85 \text{ TPY}$

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
PM	0.31 lb/mmBtu	AP-42, Table 3.3-1	0.24	0.06	0.24	0.024
PM ₁₀	0.31 lb/mmBtu	"	0.24	0.06	0.24	0.024
PM _{2.5}	0.31 lb/mmBtu	"	0.24	0.06	0.24	0.024
SO ₂	0.00205 lb/hp-hr	"	0.23	0.056	0.23	0.023
NO _x	0.031 lb/hp-hr	"	3.4	0.85	3.4	0.34
VOC	0.00247 lb/hp-hr	"	0.27	0.068	0.27	0.027
CO	0.00668 lb/hp-hr	"	0.73	0.18	0.73	0.073
CO ₂	1.15 lb/hp-hr	"	127	32	127	12.7

Pollutant	Emission Factor or Estimate	Source of Emission Factor	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
Acetaldehyde (f,s)	0.000767 lb/mmBtu	AP-42, Table 3.3-2	5.91E-04	1.48E-04	5.91E-04	5.91E-05
Acrolein (f,s)	<0.0000925 lb/mmBtu	"	7.12E-05	1.78E-05	7.12E-05	7.12E-06
Benzene (f,s)	0.000933 lb/mmBtu	"	7.18E-04	1.80E-04	7.18E-04	7.18E-05
1,3-Butadiene (f,s)	<0.0000391 lb/mmBtu	"	3.01E-05	7.53E-06	3.01E-05	3.01E-06
Formaldehyde (f,s)	0.00118 lb/mmBtu	"	9.09E-04	2.27E-04	9.09E-04	9.09E-05
POM (f)	0.000168 lb/mmBtu	"	1.29E-04	3.23E-05	1.29E-04	1.29E-05
Toluene	0.000409 lb/mmBtu	"	3.15E-04	7.87E-05	3.15E-04	3.15E-05
Xylene (f,s)	0.000285 lb/mmBtu	"	2.19E-04	5.49E-05	2.19E-04	2.19E-05

Applicable Requirements for Process P61

Pollutant	Applicable Citation	Applicable Limit	Reason limit applies/does not apply	Compliance demonstration, monitoring, and recordkeeping methods
PM	s. NR 485.055, Wis. Adm. Code	0.50 lb/mmBtu heat input	P61 is diesel powered reciprocating internal combustion engine (RICE)	<ul style="list-style-type: none"> - Use only diesel fuel. - Keep records of the fuels P61 designed to use. - It is expected that P61 will meet this emission limit because the MTE (0.31 lb/mmBtu) is less than the emission limit.
PM (operational limit)	s. 285.65(7), Wis. Stats. s. NR 400.02(136m), Wis. Adm. Code	200 hours of operation per consecutive 12-month period	<ul style="list-style-type: none"> - P61 is a compression ignition internal combustion engine - Operation must be limited to 200 hours per consecutive 12-month period to avoid the requirements of s. NR 445.09, Wis. Adm. Code 	<ul style="list-style-type: none"> - Keep records of hours of operation per month and per consecutive 12-month period - Keep records of P61's brake horsepower rating - P61 is expected to meet this limit when operating as required and keeping the required records.
Visible Emissions	NR 431.05, Wis. Adm. Code	20% opacity	Constructed/last modified after 4/1/1972	<ul style="list-style-type: none"> - Use only diesel fuel - It is expected that P61 will meet this emission limit based on fuel used and engine design.
Federal HAPs	40 CFR Part 63, Subpart ZZZZ	See Subpart ZZZZ applicability table below. It is expected that P61 will meet Subpart ZZZZ requirements when operating as required by this subpart.		

Process P61 is also subject to the general emission limitations for sulfur dioxide, volatile organic compounds, carbon monoxide, and nitrogen oxides in ss. NR 417.03, NR 419.03, NR 426.03, and NR 428.03, Wis. Adm. Code. The general limitations are included in Part II of the permit.

Table 45. Federal Standard Applicability

NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE) [40 CFR Part 63, Subpart ZZZZ, as last amended 08/10/2022] (hereinafter subpart ZZZZ)].

This table addresses Subpart ZZZZ applicability for compression ignition RICE.

Affected Source: Located at a major source of Federally listed hazardous air pollutants (HAPs)
Stack S61, Process P61 –Existing Emergency Compression Ignition (CI) Stationary RICE - rated at or below 500 horsepower (HP), constructed before June 12, 2006.

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
(1) Operating Requirements	This engine must be operated as emergency RICE to qualify for the limited requirements for emergency RICE in Subpart ZZZZ. Section I.L.3. of the draft permit contains limits on operation for non-emergency purposes so that Process P61 will meet the definition of emergency stationary RICE.
(63.6580) Purpose:	This section describes the purpose of Subpart ZZZZ. It does not contain any applicable requirements for facilities or emissions units, and therefore is not included in the draft permit.
(63.6585) Applicability:	The facility is a major source of federal hazardous air pollutants as defined in 40 CFR 63.2. Process P61 is a stationary reciprocating internal combustion engine (RICE), as defined in 40 CFR 63.6675, so it is an affected source subject to the applicable requirements in 40 CFR Part 63 Subpart ZZZZ.
(63.6590) Affected Source:	P61 is an existing stationary RICE located at a major source of HAP because it was constructed before June 12, 2006.
(63.6595) Compliance Deadlines:	P61 is an existing stationary CI RICE with a site rating less than 500 brake HP, located at a major source of HAP emissions. Therefore, its compliance date was May 3, 2013 [s. 63.6595(a)(1)]. Since the compliance date has passed, this section of the standard is not included in the draft permit.
(63.6600) Emission limitations and operating limitations for RICE rated at >500 brake HP (63.6601) Emission limitations and operating limitations certain new or reconstructed RICE	These sections do not apply to P61 because it is rated at less than 500 brake horsepower, and is not a new or reconstructed RICE.
(63.6602) Emission limitations and other requirements for an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions:	P61 is rated at less than 500 brake HP and is located at a major source of HAP emissions. Therefore, it is subject to the applicable requirements in Table 2c to Subpart ZZZZ. The requirements for emergency SI RICE in Item 1 of Table 2c are: a. Change oil and filter every 500 hours of operation or annually, whichever comes first. b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
(63.6603) Requirements for existing stationary RICE located at an area source of HAP emissions:	This section does not apply to P61 because it is not located at an area source of HAP emissions.
(63.6604) Fuel requirements for stationary CI RICE:	None of the fuel requirements in this section apply to P61. Paragraph (a) does not apply to P61 because it is an emergency CI RICE. Paragraph (b) does not apply because P61 it is located at a major source of HAPs and may not operate for the purposes specified in s. 63.6640(f)(4)(ii).

Table 45. Federal Standard Applicability

NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE) [40 CFR Part 63, Subpart ZZZZ, as last amended 08/10/2022] (hereinafter subpart ZZZZ)].

This table addresses Subpart ZZZZ applicability for compression ignition RICE.

Affected Source: Located at a major source of Federally listed hazardous air pollutants (HAPs)
Stack S61, Process P61 –Existing Emergency Compression Ignition (CI) Stationary RICE - rated at or below 500 horsepower (HP), constructed before June 12, 2006.

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	Paragraph (c) does not apply because P61 is not a new emergency CI RICE. Paragraph (d) does not apply because P61 is not located in the areas specified.
(63.6605) <i>General Compliance Requirements:</i>	This section applies to P61 and is included in the draft permit.
(63.6610) <i>Initial performance tests or other initial compliance demonstrations for a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions:</i>	This section does not apply to P61 because it is rated at less than 500 brake HP.
(63.6611) <i>Initial performance tests or other initial compliance demonstrations for a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions:</i>	This section does not apply to P61 because it is not a new or reconstructed RICE.
(63.6612) <i>Initial performance tests or other initial compliance demonstrations for an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions:</i>	This section does not apply to P61 because there are no initial performance test or other initial compliance demonstration requirements that apply to this RICE in Tables 4 and 5 to Subpart ZZZZ. No initial testing or compliance demonstration conditions apply because this is an emergency RICE that is not subject to any emission limits.
(63.6615) <i>Subsequent Performance Tests:</i>	This section does not apply to P61 because there are no applicable emission limits.
(63.6620) <i>Performance Tests and Other Procedures:</i>	This section does not apply to P61 because performance testing is not required for emergency RICE.
(63.6625) <i>Monitoring, Installation, Collection, Operation, and Maintenance Requirements:</i>	Paragraphs (a) and (b) do not apply. P61 is not subject to any emission limits, and therefore the CEMS and CPMS monitoring options and requirements in Table 5 to Subpart ZZZZ do not apply. Paragraphs (c) and (d) do not apply because P61 is not a new or reconstructed RICE.

Table 45. Federal Standard Applicability

NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE) [40 CFR Part 63, Subpart ZZZZ, as last amended 08/10/2022] (hereinafter subpart ZZZZ)].

This table addresses Subpart ZZZZ applicability for compression ignition RICE.

Affected Source: Located at a major source of Federally listed hazardous air pollutants (HAPs)
Stack S61, Process P61 –Existing Emergency Compression Ignition (CI) Stationary RICE - rated at or below 500 horsepower (HP), constructed before June 12, 2006.

This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.

NESHAP Section/Requirement	Applicability Description
	<p>Paragraphs (e) and (f) apply to P61 because it is an existing emergency RICE rated at less than 500 HP and located at a major HAP source [ss. 63.6625(e)(2) and (f)]. These requirements are included in the draft permit.</p> <p>Paragraph (g) does not apply because P61 is an emergency RICE.</p> <p>Paragraph (h) applies and is included in the draft permit.</p> <p>Paragraph (i) applies to P61 because it is a CI engine that is subject to the work practices in item 1 of Table 2c to Subpart ZZZZ. This section is included in the draft permit.</p> <p>Paragraph (j) does not apply to P61 because it is not an SI engine.</p>
<p>(63.6630) <u>Initial Compliance Demonstration Requirements for Emission Limitations, Operating Limitations, and Other Requirements:</u></p>	<p>This section does not apply to P61 because it is not subject to any of the initial compliance demonstration requirements in Table 5 to Subpart ZZZZ.</p>
<p>(63.6635) <u>Monitoring and Data Collection to Demonstrate Continuous Compliance:</u></p>	<p>This section does not apply to P61 because it is not subject to operating limitations for catalyst inlet temperature or pressure drop that were established during performance testing</p>
<p>(63.6640) <u>Continuous Compliance Demonstrations for Emission Limitations, Operating Limitations, and Other Requirements:</u></p>	<p>Paragraph (a): This section applies to P61 because it is subject to requirements in Table 2c to Subpart ZZZZ. P61 must demonstrate compliance according to the methods in Item 9 of Table 6 to Subpart ZZZZ, which is included in the draft permit.</p> <p>Paragraph (b) does not apply to P61 because there are no emission or operating limitations that apply to this RICE.</p> <p>Paragraph (c) does not apply to P61 because it is an emergency RICE.</p> <p>Paragraph (d) does not apply to P61 because it is not a new, reconstructed, or rebuilt RICE.</p> <p>Paragraph (e) applies to P61 because it is an existing RICE with a site rating less than 500 brake HP – i.e., it is not in any of the categories of RICE that are excluded from complying with this section. This section is included in the draft permit.</p> <p>Paragraph (f) specifies the conditions when an emergency stationary RICE may be used. Sections 63.6640(f)(1) through (3) are included in the draft permit. Section 63.6640(f)(4) does not apply to P61 because it is not located at an area source of HAP.</p>
<p>(63.6645) <u>Notification Requirements:</u></p>	<p>This section is not included in the draft permit because the initial notification period for P61 has passed.</p>
<p>(63.6650) <u>Reporting Requirements:</u></p>	<p>This section is not included in the draft permit because Table 7 to Subpart ZZZZ has no reporting requirements that apply to P61. Section 63.6640(f)(4) does not apply to these RICE, so the reporting requirements in item 4 of Table 7 do not apply.</p>
<p>(63.6655) <u>Recordkeeping Requirements:</u></p>	<p>Paragraphs (a) and (b) do not apply to P61 because it is not subject to any emission or operating limitations.</p>

Table 45. Federal Standard Applicability	
<p>NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE) [40 CFR Part 63, Subpart ZZZZ, as last amended 08/10/2022] (hereinafter subpart ZZZZ)]. This table addresses Subpart ZZZZ applicability for compression ignition RICE.</p>	
<p>Affected Source: Located at a major source of Federally listed hazardous air pollutants (HAPs) Stack S61, Process P61 –Existing Emergency Compression Ignition (CI) Stationary RICE - rated at or below 500 horsepower (HP), constructed before June 12, 2006.</p>	
<p><i>This table explains the applicability of the above federal standard for the listed affected source(s), including any operational restrictions. The applicable requirements from the federal standard are included in the draft permit under the authority of s. 285.65(13), Wis. Stats.</i></p>	
NESHAP Section/Requirement	Applicability Description
	<p>Paragraph (c) does not apply because P61 is not a new or reconstructed RICE that fires landfill or digester gas. Paragraph (d) does not apply because P61 is not subject to any emission or operating limitations. Paragraph (e) applies because P61 is an existing stationary emergency RICE. This section is included in the draft permit. Paragraph (f) applies because P61 is an existing emergency stationary RICE rated at less than 500 brake HP, is located at a major source of HAP emissions, and does not meet the standards applicable to non-emergency engines. This section is included in the draft permit.</p>
(63.6660) <u>Record Form and Retention Requirements:</u>	This section applies to P61 and is included in the draft permit.
(63.6665) <u>General Provisions:</u>	Table 8 to 40 CFR part 63, subpart ZZZZ, shows which part of the General Provisions in 40 CFR part 63, subpart A, apply to affected sources under subpart ZZZZ.
(63.6670) <u>Implementation and Enforcement Authority</u>	This section explains who has the authority to implement and enforce subpart ZZZZ and does not include applicable permit requirements. It is not included in the draft permit.
(63.6675) <u>Definitions:</u>	Terms used in subpart ZZZZ, and in section I.L.3. of the permit, are defined in 40 CFR 63.6675.

Changes for Process P61 in Renewal 74400810A-P30

1. Renewal 74400810A-P30 will limit hours of operation for Process P61 to 200 hours per consecutive 12-month period, and include associated recordkeeping requirements. This limit is necessary so that P61 will qualify as a restricted use RICE, and thus be exempt from the requirements of s. NR 445.09, Wis. Adm. Code per s. NR 445.09(1)(c), Wis. Adm. Code.

2. NESHAP Subpart ZZZZ requirements in Renewal 74400810A-P30 will follow the department’s current standard language.

5.3.4 Construction Permit Requirements (Table YYY) and Operating Requirements (Table ZZZ)

Table YYY – Construction permit 22-MMC-035 Requirements

Table YYY will contain the general permit requirements from active construction permit 22-MMC-035. These conditions cover construction and operation of Boiler B40 during the construction term of permit 22-MMC-035, including notification and submittal requirements. In permit 22-MMC-035, stack parameter requirements for B40’s stack S12 are in section I.YYY.9.a. In Renewal 74400810A-P30, stack parameter requirements for B40 will be located in section I.ZZZ.3.a., along with stack parameter requirements for other stacks.

Table ZZZ – Operating Requirements

Table ZZZ in Renewal 74400810A-P30 will be updated to the current standard format. The following table shows changes to Table ZZZ in Renewal 74400810A-P30.

Table 46. Table ZZZ changes in Renewal 74400810A-P30		
Section in permit 744008100-P22	Equivalent section in renewal 74400810A-P30	Changes in renewal 74400810A-P30
I.ZZZ.1. – Compliance testing	I.ZZZ.2.	Updated to current standard format
I.ZZZ.2. - Reporting	I.ZZZ.1.	1. Updated to current standard format 2. Renewal 74400810A-P30 will not include the excess emission reporting requirements in Condition I.ZZZ.2.a.(3) of permit 744008100-P22. Since Boiler B26 is no longer in operation, opacity and sulfur dioxide excess emission reports are no longer required. In Renewal 74400810A-P30, the nitrogen oxides excess emission reporting requirements for Boiler B28 will be in the NSPS Subpart Db section I.A.6.
I.ZZZ.3. – Additional test methods	I.ZZZ.7. for fuel oil testing II.U.5.b. for PM ₁₀ test methods	1. Methods for sampling and testing the sulfur content of distillate oil will be retained in Renewal 74400810A-P30, because there is a fuel sulfur content requirement in condition I.A.3.a.(1). Methods for determining heat content of distillate oil will not be included because the sulfur content limit is not in terms of pounds per million Btu. 2. PM ₁₀ emissions testing methods are now in Part II.
I.ZZZ.4. – Fugitive dust control plan	I.ZZZ.8.	Relocated
I.ZZZ.5. – Coal dust plan	I.ZZZ.12.	Relocated
I.ZZZ.6. – Malfunction Prevention and Abatement Plan	II.F.	Malfunction Prevention and Abatement Plan requirements are now in Part II.
I.ZZZ.7. – CAM requirements	I.ZZZ.5.	1. Updated to current standard format 2. Boiler B26 and associated Process P52 are no longer in operation. CAM requirements for these emissions units will not be referenced in Section I.ZZZ.5.
I.ZZZ.8. – Alternate Operating Scenario	None	This language is not included in Table ZZZ any more.
I.ZZZ.9. Administrative Order AM-15-01	I.ZZZ.9.	1. Conditions I.ZZZ.9.a.(1) and (3) in current permit 744008100-P22 will be included in Renewal 74400810A-P30. 2. Condition I.ZZZ.9.a.(2) in current permit 744008100-P22 will not be included in Renewal 74400810A-P30. The facility submitted a letter on 12/22/2016 to fulfill the requirements of this condition, and as required the requirements of Order AM-15-01 were incorporated in permit 744008100-P20. In addition, on March 25, 2021 permit 15-DMM-128-R1 was issued to include relevant requirements of Order AM-15-01 in a construction permit.
I.ZZZ.10. Construction permit 13-SDD-014-P21	I.ZZZ.10.	No change
I.ZZZ.11.	I.ZZZ.3.	S09 and S32 will not be included in Section I.ZZZ.3. of renewal 74400810A-P30. These stacks exhausted Boiler B26

Table 46. Table ZZZ changes in Renewal 74400810A-P30		
Section in permit 744008100-P22	Equivalent section in renewal 74400810A-P30	Changes in renewal 74400810A-P30
		and Process P52 respectively. these emissions units are no longer in operation.
None	I.ZZZ.4. – Submittals/Record Retention	These requirements are standard conditions in Table ZZZ.
None	I.ZZZ.11. – Coal-fired Boiler B26	Added requirement prohibiting operation of B26.

5.3.5 Part II

Part II of the permit has been revised. This standardized portion of the permit contains general conditions applicable to all air pollution sources. The revision to Part II includes the following changes:

- All language was verified to assure consistency with chs. NR 400-499 requirements and where necessary was revised to match code rather than paraphrasing;
- Sections specific to only a construction or operation permit are identified;
- Clarity of Scope (section A) was updated and now includes all parts of the permit;
- Underlining added to pollutants throughout General Emission Limits (section C) for ease in scanning and identifying the affected pollutant;
- General limit for mercury was added (item C.2.u);
- Change in Ownership or Control (section H) no longer requires an administrative revision application; “notify the department in writing” is the replacement language;
- Removed the requirement to copy the US EPA for Compliance Certification (section N);
- Added Credible Evidence Language (section T);
- Added Reference Test Methods (section U).

Because reference test methods have been added to Part II of the permit, the test methods that are included in Part II will be removed from Part I of the permit.

5.3.6 Greenhouse Gas Emissions

Most of the combustion sources at this facility burn natural gas. Emergency engine P61 burns distillate oil. Boiler B28 can burn distillate oil as well as natural gas, but does so only in exceptional circumstances. Therefore the estimate of greenhouse gas emissions assumes that Boiler B28 burns only natural gas. There is no limit on the combustion of natural gas at the facility, while emergency engine P61 is limited to 200 hours of operation per year.

Total Btu rating of natural gas combustion sources: 633.3 mmBtu/hr (B28, B30, B40, P30, P41, F98)

Table 47. Greenhouse gas emissions, natural gas combustion. Total rating 633.3 mmBtu/hour, 2.205 lb/kg					
Greenhouse gas (GHG)	Emission factor, kg/mmBtu	Source of emission factor	Emissions, tons/year	Global warming potential (GWP)	Emissions, CO _{2e} , tons/year
Carbon dioxide	53.06	Table C-1 to 40 CFR Part 98, Subpart C	324,500	1	324,500
Methane	1.0E-03	Table C-2 to 40 CFR Part 98, Subpart C	6.12	25	152
Nitrous oxide	1.0E-04	Table C-2 to 40 CFR Part 98, Subpart C	0.612	298	182

CO ₂ equivalents (CO _{2e})					324,834
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Table 48. Greenhouse gas emissions, distillate oil combustion. Total rating 0.77 mmBtu/hour, 2.205 lb/kg					
Greenhouse gas (GHG)	Emission factor, kg/mmBtu	Source of emission factor	Emissions, tons/year	Global warming potential (GWP)	Emissions, CO _{2e} , tons/year
Carbon dioxide	73.96	Table C-1 to 40 CFR Part 98, Subpart C	MTE: 31 PTE: 12	1	MTE: 31 PTE: 12
Methane	3.0E-03	Table C-2 to 40 CFR Part 98, Subpart C	MTE: 0.0013 PTE: 0.0005	25	MTE: 0.03 PTE: 0.013
Nitrous oxide	6.0E-04	Table C-2 to 40 CFR Part 98, Subpart C	MTE: 0.00025 PTE: 0.0001	298	MTE: 0.076 PTE: 0.03
CO ₂ equivalents (CO _{2e})					MTE: 31 PTE: 12

MTE total, all fuels: 324,865 TPY

PTE total, all fuels: 324,846 TPY

5.3.7 Processes with emissions less than NR 407 Table 3 levels

Fugitive F50 – Coal and ash storage and handling

In permit 744008100-P22, Fugitive F50 represents fugitive emissions from coal and ash handling, truck traffic, coal and ash storage pile activities, etc. The facility estimated total emissions from these activities as follows, based on EPA emission factors:

Table 49. F50: Storage pile emissions				
Pollutant	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
PM	0.09	0.41	0.02	0.1
PM ₁₀	0.05	0.21	0.01	0.05

Table 50. F50: Truck traffic emissions				
Pollutant	MTE, lb/hr	MTE, TPY	PTE, lb/hr	PTE, TPY
PM	2.27	9.948	0.57	2.49
PM ₁₀	0.67	2.93	0.17	0.73

Truck traffic emissions were from hauling coal, bottom ash, and flyash.

Since Boiler B26 is no longer in operation, there is no longer truck traffic from hauling coal and ash. Therefore, F50 no longer includes emissions from these operations. There is still a coal pile on-site. As shown above, emissions from the coal pile are less than the significance levels in Table 3 of chapter NR 407, Wis. Adm. Code. Therefore in Renewal 74400810A-P30, F50 will be listed with the sources subject to s. NR 407.05(4)(c)9., Wis. Adm. Code. The requirements of s. NR 445.10, Wis. Adm. Code, for the handling and storage of coal, will be located in Section I.ZZZ.12. in Renewal 74400810A-P30.

Process P101, Stack 101 – Lime storage silo

This analysis is included to show that maximum theoretical emissions from Process P101 are less than the applicable inclusion levels in Table 3 of s. NR 407.05(4)(c)9., Wis. Adm. Code. For this process, MTE is the same as PTE because the fabric filter captures and returns lime to the silo. This process stores lime, calcium oxide (CaO), which is a hazardous air contaminant regulated by ch. NR 445, Wis. Adm. Code.

Maximum throughput: 25 tons/hour

20 tons of lime is delivered every other week. Annual amount delivered: 20 x 26 = 520 tons/year

Emission factor is taken from AP-42, Table 11.7-4, value for crushed material conveyor transfer with fabric filter: 8.8E-05 lb/ton. Assume that PM₁₀ = PM, and that all particulate matter is in the form of CaO.

MTE: 25 tons/hr x 8.8E-05 lb/ton = 0.0022 lb/hr; 520 tons/year x 8.8E-05 lb/ton = 0.046 lb/year

Pollutant	MTE, lb/yr	Table 3 inclusion level, lb/yr
PM	0.046	2000
PM ₁₀	0.046	2000
CaO	0.046	94.1

Since MTE for each pollutant is less than the applicable inclusion level in Table 3 of ch. NR 407, Wis. Adm. Code, Renewal 74400810A-P30 will not contain a table of emission limits for Process P101.

5.3.8 Total Facility Emissions

A. Table 52. Emissions Summary – Criteria Pollutants.

Process	PM		PM ₁₀		PM _{2.5}		SO ₂		NO _x		VOC		CO		Lead		GHG		
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
DTE	B28	6.46	9.99	4.51	9.59	3.04	9.29	13.9	3.55	27	64	1.5	6.6	22.9	100	0.003	0.013		
	B30	0.71	3.1	0.71	3.1	0.71	3.1	0.06	0.24	9.3	40.7	0.51	2.24	7.8	34.2	0.000047	0.0002		
	B40	0.5	2.19	0.5	2.19	0.5	2.19	0.06	0.25	3.6	15.8	0.4	1.75	3.75	16.4	0.000049	0.00021		
	P30	0.19	0.81	0.19	0.81	0.19	0.81	0.016	0.06	2.44	10.7	220	962	2.05	8.98	0.000012	0.000053		
	P40	1.12	4.89	1.12	4.89	0	0	0	0	0	0	142	623	0	0	0	0		
	P41	0.06	0.27	0.06	0.27	0.06	0.27	0.0048	0.021	0.8	3.5	6	26	0.67	2.9	0.000004	0.000018		
	P42	0	0	0	0	0	0	0	0	0	0	0.09	0.04	0	0	0	0		
	F96	0	0	0	0	0	0	0	0	0	0	0.0014	0.006	0	0	0	0		
	F98	0.93	4.06	0.93	4.06	0.93	4.06	0.07	0.32	12.2	53.4	0.67	2.94	10.2	44.9	0.000061	0.00027		
	F99	0	0	0	0	0	0	0	0	0	0	0.002	0.0088	0	0	0	0		
	P60	0	0	0	0	0	0	0	0	0	0	1.2	5.24	0	0	0	0		
	P61	0.24	0.06	0.24	0.06	0.24	0.06	0.23	0.056	3.4	0.85	0.27	0.068	0.73	0.18	0	0		
Total	10.21	25.37	8.26	24.97	5.67	19.78	14.34	4.50	58.74	188.95	372.64	1629.89	48.1	207.56	0.0032	0.0138	---	324,800	
MTE	B28	6.46	28.3	4.51	19.7	3.04	13.3	139	609	47	206	1.5	6.6	22.9	100	0.003	0.013		
	B30	0.71	3.1	0.71	3.1	0.71	3.1	0.06	0.24	9.3	40.7	0.51	2.24	7.8	34.2	0.000047	0.0002		
	B40	0.5	2.19	0.5	2.19	0.5	2.19	0.06	0.25	3.6	15.8	0.4	1.75	3.75	16.4	0.000049	0.00021		
	P30	0.19	0.81	0.19	0.81	0.19	0.81	0.016	0.06	2.44	10.7	266	1165	2.05	8.98	0.000012	0.000053		
	P40	1.12	4.89	1.12	4.89	0	0	0	0	0	0	142	623	0	0	0	0		
	P41	0.06	0.27	0.06	0.27	0.06	0.27	0.0048	0.021	0.8	3.5	6	26	0.67	2.9	0.000004	0.000018		
	p42	0	0	0	0	0	0	0	0	0	0	0.09	0.4	0	0	0	0		
	F96	0	0	0	0	0	0	0	0	0	0	0.0014	0.006	0	0	0	0		
	F98	0.93	4.06	0.93	4.06	0.93	4.06	0.07	0.32	12.2	53.4	0.67	2.94	10.2	44.9	0.000061	0.00027		
	F99	0	0	0	0	0	0	0	0	0	0	0.002	0.0088	0	0	0	0		
	P60	0	0	0	0	0	0	0	0	0	0	1.2	5.24	0	0	0	0		
	P61	0.24	0.06	0.24	0.06	0.24	0.06	0.23	0.056	3.4	0.85	0.27	0.068	0.73	0.18	0	0		
Total	10.21	43.68	8.26	35.08	5.67	23.79	139.44	609.95	78.74	330.95	418.64	1833.25	48.1	207.56	0.0032	0.0138	---	324,900	

B. Table 53. Emissions Summary – Hazardous Air Pollutants			
Pollutant	Type (F,S)	MTE, TPY	PTE, TPY
Acetaldehyde	F, S	3.67	3.67
Acrolein	F, S	1.78E-05	7.12E-06
Ammonia	S	11.68	8.79
Arsenic	F, S	0.005	0.0008
Barium	S	0.0118	0.0118
Benzene	F, S	0.0059	0.0057
Beryllium	F, S	0.0036	0.00017
1,3-Butadiene	F, S	7.5E-06	3.01E-06
Cadmium	F, S	0.0052	0.0031
Chloroform	F, S	0.4	0.04
Chromium	F, S	0.0057	0.0039
Cobalt	F, S	0.00054	0.00054
Copper	S	0.0084	0.0026
Dichlorobenzene	F, S	0.0032	0.0032
Formaldehyde	F, S	23.53	23.12
Hexane	F, S	4.86	4.86
Manganese	F, S	0.0077	0.0013
Mercury	F, S	0.004	0.0009
Methanol	F	4.03	4.03
Molybdenum	S	0.003	0.003
Naphthalene	F, S	0.0016	0.0016
Nickel	F, S	0.0067	0.0057
Phenol	F, S	1.34	1.34
Polycyclic Organic Matter (POM)	F	0.029	0.0028
Propionaldehyde	F	0.97	0.97
Toluene	F, S	1165	58.3
Vanadium pentoxide	S	0.0111	0.0111
Xylene	F, S	224	11.2
Total of all federal HAPs		1428	108

6 HAZARDOUS AIR CONTAMINANTS REGULATED BY CH. NR 445, WIS. ADM. CODE

Chapter NR 445, Wis. Adm. Code regulates emissions of the hazardous air contaminants listed in Table A of s. NR 445.07, Wis. Adm. Code.

Compliance with ch. NR 445, Wis. Adm. Code is determined on a facility-wide basis and includes all sources of hazardous air contaminant emissions with the following exceptions:

- The emission limits and control requirements of ch. NR 445, Wis. Adm. Code do not apply to hazardous air contaminants emitted by the emissions units, operations or activities that are regulated by an emission standard promulgated under section 112 of the Clean Air Act, per s. NR 445.01(1)(b), Wis. Adm. Code. Emission standards promulgated under section 112 of the Act include the National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR parts 61 and 63.
- Section NR 445.07(5)(a) through (f), Wis. Adm. Code exempts specific types of hazardous air contaminant emissions from the requirements of s. NR 445.07(1)-(3), Wis. Adm. Code. Even if exempt under s. NR 445.07(5), Wis. Adm. Code, an emissions unit identified in s. NR 445.07(5)(a) through (f), Wis. Adm. Code may be subject to other applicable requirements of ch. NR 445, Wis. Adm. Code, such as ss. NR

445.09 and NR 445.10, Wis. Adm. Code.

The facility is subject to the following emission standards promulgated under section 112 of the Clean Air Act: 40 CFR Part 63, Subparts JJJJ, ZZZZ, and DDDDD. The hazardous air contaminants that are regulated by an emission standard promulgated under section 112 of the Clean Air Act are not subject to the emission limits and control requirements of ch. NR 445, Wis. Adm. Code, per s. NR 445.01(1)(b), Wis. Adm. Code. An emissions unit, operation or activity that is subject to an emission standard promulgated under section 112 of the Clean Air Act, may also emit other hazardous air contaminants that are not regulated by the section 112 emission standard. Any other hazardous air contaminants that are not regulated by the section 112 emission standard are subject to the requirements of s. NR 445.07, Wis. Adm. Code, unless otherwise exempted under s. NR 445.07(5), Wis. Adm. Code.

When determining if a hazardous air contaminant is regulated by an emission standard promulgated under section 112 of the Clean Air Act, the requirements of the standard must meet the s. 285.01(16), Wis. Stats. definition of an “emission standard” which means a requirement which limits the quantity, rate or concentration of emissions of air contaminants on a continuous basis. An emission standard includes a requirement relating to the operation or maintenance of a source to assure continuous emission reduction.

To be “regulated by an emission standard promulgated under section 112 of the Act,” the hazardous air contaminants must be regulated by name of the contaminant, by virtue of regulation of another substance as a surrogate for the contaminant, or by virtue of regulation of a species or category of hazardous air contaminant that includes the contaminant. An example of regulated “by virtue of regulation of another substance as a surrogate” would be using the measurement of one contaminant to represent the emission rate of another, harder to measure contaminant. Examples of regulated “by virtue of the regulation of a species or category” would be the use of terms such as “volatile organic HAP” or “total HAP” emission in lieu of specifically naming individual hazardous air contaminants. Emission standards promulgated under section 112 of the Act include the National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR parts 61 and 63.

The following table identifies ch. NR 445, Wis. Adm. Code applicability for emissions units at the facility that emit ch. NR 445 hazardous air contaminants.

Table 54. Section NR 445.07, Wis. Adm. Code Applicability					
Stack and Process	Type of NR 445 Contaminant Emitted ¹	Applicability of NR 445.01(1)(b)		Applicable exemption under NR 445.07(5)	Subject to s. NR 445.07?
		Applicable NESHAP (Part, Subpart and Title) ²	Hazardous Air Contaminants Regulated by an Emission Standard ³		
S08, B28	Solid – Various Organic – Various Ammonia Mercury	Part 63, Subpart DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters	None – only subject to 5-year tune-up requirements, which do not meet the definition of an emission limitation or emission standard.	s. NR 445.07(5)(a) – combustion of group 1 virgin fossil fuels	No – all HAPs are from combustion of natural gas or distillate fuel oil, which are group 1 virgin fossil fuels.
S11, B30	Solid – Various Organic – Various Ammonia Mercury	Part 63, Subpart DDDDD	None – only subject to 5-year tune-up requirements	s. NR 445.07(5)(a) – combustion of group 1 virgin fossil fuels	No – all HAPs are from combustion of natural gas, a group 1 virgin fossil fuel.

Table 54. Section NR 445.07, Wis. Adm. Code Applicability					
Stack and Process	Type of NR 445 Contaminant Emitted ¹	Applicability of NR 445.01(1)(b)		Applicable exemption under NR 445.07(5)	Subject to s. NR 445.07?
		Applicable NESHAP (Part, Subpart and Title) ²	Hazardous Air Contaminants Regulated by an Emission Standard ³		
S12, B40	Solid – Various Organic – Various Ammonia Mercury	Part 63, Subpart DDDDD	None – only subject to 5-year tune-up requirements	s. NR 445.07(5)(a) – combustion of group 1 virgin fossil fuels	No – all HAPs are from combustion of natural gas, a group 1 virgin fossil fuel.
S13, C08, P30	Solid – Various Organic – Various Ammonia Mercury	Part 63 Subpart JJJJ – Paper and other Web Coating	Federal HAPs	s. NR 445.07(5)(a) for emissions from natural gas combustion (group 1 virgin fossil fuels)	No – Emissions from coating operations are regulated by Subpart JJJJ (all are federal HAPs), and natural gas is a group 1 virgin fossil fuel.
S20, P40	Organic – Various	None	None	None	Yes – Organic HAP
S16, P41	Solid – Various Organic – Various Ammonia Mercury	Part 63 Subpart JJJJ	Federal HAPs	s. NR 445.07(5)(a) for emissions from natural gas combustion (group 1 virgin fossil fuels)	No – all HAP emissions are from combustion of natural gas, a group 1 virgin fossil fuel.
S36, P42	Chloroform	None	None	None	Yes – Chloroform
F96	Chloroform	None	None	s. NR 445.07(5)(d)2. – emissions are indoor fugitives, and facility demonstrates compliance with OSHA requirements	No – exempt under s. NR 445.07(5)(d)2.
F98	Solid – Various Organic – Various Ammonia Mercury	None – make-up air units are not boilers as defined in Part 63 Subpart DDDDD, and the facility's ovens are not process heaters.	None	s. NR 445.07(5)(a) – combustion of group 1 virgin fossil fuels	No – all HAP emissions are from combustion of natural gas, a group 1 virgin fossil fuel.
F99	Chloroform	None	None	None	Yes - Chloroform
S60, P60	None	---	---	---	No
S61, P61	Organic – various	Part 63 Subpart ZZZZ – Stationary RICE	None – requirements for emergency RICE do not meet the definition of an emission limitation or emission standard	s. NR 445.07(5)(a) – combustion of group 1 virgin fossil fuels	No – all HAP emissions are from combustion of distillate fuel oil, a group 1 virgin fossil fuel.

Stack and Process	Type of NR 445 Contaminant Emitted ¹	Applicability of NR 445.01(1)(b)		Applicable exemption under NR 445.07(5)	Subject to s. NR 445.07?
		Applicable NESHAP (Part, Subpart and Title) ²	Hazardous Air Contaminants Regulated by an Emission Standard ³		

¹ Refer to the Emissions Calculations in section 5.3 for process-specific emission rates of individual NR 445 pollutants.

² Refer to the Applicable Requirements in section 5.3 for detailed descriptions of NESHAP applicability.

³ Only the hazardous air contaminants that are regulated by an emission standard promulgated under section 112 of the Clean Air Act are not subject to the emission limits and control requirements of ch. NR 445, Wis. Adm. Code, per s. NR 445.01(1)(b), Wis. Adm. Code. Any other hazardous air contaminants that are not regulated by the section 112 emission standard are subject to the requirements of s. NR 445.07, Wis. Adm. Code, unless otherwise exempted under s. NR 445.07(5), Wis. Adm. Code. To be “regulated by an emission standard promulgated under section 112 of the Act,” the hazardous air contaminants must be regulated by name of the contaminant, by virtue of regulation of another substance as a surrogate for the contaminant, or by virtue of regulation of a species or category of hazardous air contaminant that includes the contaminant.

The following table identifies the exhaust points for emissions units that are sources of non-exempt hazardous air contaminants regulated by ch. NR 445, Wis. Adm. Code.

Process ID	Stack ID	Stack Height (ft)	NR 445 Stack Height Category	Stack Configuration
				Unobstructed AND within 10 degrees of vertical (y/n) ¹
P40	S20	60	40 to < 75 ft	y
P42	S36	34	25 to < 40 ft	n
F99	outdoor fugitive	---	<25 ft	no stack

¹ Per s. NR 445.07(6), Wis. Adm. Code, the emission thresholds in columns (c) to (f) in Tables A, B and C of s. NR 445.07, Wis. Adm. Code for any hazardous air contaminant may be used if emissions from the source are vented to the atmosphere from an unobstructed discharge point that is within 10 degrees of vertical. A department memorandum dated October 20, 2005, details the method for using the emission thresholds in columns (c) to (f) in Tables A, B and C of s. NR 445.07, Wis. Adm. Code for obstructed and/or non-vertical stacks and fugitive emissions not exempt under the indoor fugitive emissions exemptions in s. NR 445.07(5)(d), Wis. Adm. Code.

The facility does not generate hazardous air contaminant emissions from the manufacture or treatment of pesticides, rodenticides, insecticides, herbicides, fungicides, or pharmaceuticals. Therefore, the thresholds in Table B and Table C and the requirements of s. NR 445.07(2) and (3), Wis. Adm. Code are not applicable.

When comparing non-exempt, potential to emit emissions of hazardous air contaminants with the thresholds in columns (c) to (f) of Table A of s. NR 445.07, Wis. Adm. Code, the non-exempt, potential to emit emissions for each contaminant for all stacks within each of the four stack categories are combined and each group of non-exempt, potential to emit emissions are compared against the respective threshold found in column (c), (d), (e) or (f) in Table A of s. NR 445.07, Wis. Adm. Code. The total facility non-exempt, potential to emit of hazardous air contaminants regulated by ch. NR 445, Wis. Adm. Code are summarized in the following table. The table also lists the Table A thresholds (annual and/or 1-hour/24-hour average) for each hazardous air contaminant for each stack height category.

NR 445 Hazardous Air Contaminant	Stack Height Category	E _{Unobstructed}		4 × (E _{obstructed} + E _{Fugitive})		E _{Total}		Ch. NR 445 Thresholds (lb/hr or lb/yr)	
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	1-hr/24-hr avg.	Annual
Acetaldehyde	40 to <75 ft	0.84	7,360	---	---	0.84	7,360	20.6	7,900
Chloroform	25 to <40 ft	---	---	0.36	316.8	0.36	316.8	10.2	317

Table 56. Total Facility Non-Exempt, Potential to Emit for Hazardous Air Contaminants Regulated by s. NR 445.07, Wis. Adm. Code

NR 445 Hazardous Air Contaminant	Stack Height Category	E _{Unobstructed}		4 × (E _{obstructed} + E _{Fugitive})		E _{Total}		Ch. NR 445 Thresholds (lb/hr or lb/yr)	
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	1-hr/24-hr avg.	Annual
Chloroform	<25 ft	---	---	0.008	70	0.008	70	2.62	77.3
Formaldehyde	40 to <75 ft	---	45,800	---	---	---	45,800	---	1,337
Phenol	40 to <75 ft		---	---	---		---	8.1	---

E = Hazardous air contaminant PTE.

[E_{Total} = E_{Unobstructed} + 4 × (E_{Obstructed} + E_{Fugitive})] per Wisconsin DNR memorandum detailing the method for using Table A for obstructed and/or non-vertical stacks, dated October 20, 2005.

As shown in the previous table the total non-exempt potential emission rates for each hazardous air contaminant, for each stack category, are below the corresponding threshold in columns (c) to (f) of Table A of s. NR 445.07, Wis. Adm. Code with the exception of formaldehyde.

For the hazardous air contaminants with non-exempt potential emissions below all applicable thresholds in columns (c) to (f) of Table A of s. NR 445.07, Wis. Adm. Code, the source satisfies the requirements of s. NR 445.07(1), Wis. Adm. Code using the compliance method in s. NR 445.08(2)(a), Wis. Adm. Code.

For formaldehyde: formaldehyde is a contaminant with a control requirement in column (i) of Table A of Ch. NR 445, Wis. Adm. Code. The control requirement for formaldehyde is Best Available Control Technology (BACT). The current operation permit includes BACT requirements for Process P40, the only process with non-exempt emissions of formaldehyde. Therefore, the source satisfies the requirements of s. NR 445.07, Wis. Adm. Code for formaldehyde using the compliance method in s. NR 445.08(2)(f), Wis. Adm. Code. BACT for formaldehyde has been determined to be:

- the use of wet strength resins with a maximum free-formaldehyde content of 2.0 percent by weight; and
- limiting the use of urea-formaldehyde wet strength resins to no more than one paper machine at a time.

Applicability of s. NR 445.09, Wis. Adm. Code:

Emergency engine P61 is a compression ignition internal combustion engine combusting fuel oil. Therefore, it is subject to the requirements of s. NR 445.09, Wis. Adm. Code, unless it meets one of the exemptions in s. NR 445.09(1), Wis. Adm. Code. To make Process P61 exempt from these requirements by qualifying as a restricted use RICE, Renewal 74400810A-P30 will restrict operation of P61 to no more than 200 hours per year (ss. NR 400.02(136m) and NR 445.09(1)(c), Wis. Adm. Code).

Applicability of s. NR 445.10, Wis. Adm. Code:

Although the facility no longer burns coal, there is still a coal pile containing more than 1000 tons of coal on site. Because the facility handles or stores more than 1000 tons of coal in any 12 consecutive month period, the control and compliance requirements for the handling and storage of coal, in s. NR 445.10, Wis. Adm. Code apply. The requirements of s. NR 445.10, Wis. Adm. Code apply to all outdoor fugitive and non-fugitive coal dust emissions. Sources of outdoor fugitive coal dust emissions include the coal storage pile (F50). The requirements of s. NR 445.10(2), Wis. Adm. Code, are included in section I.ZZZ.12. of the draft permit.

7 AIR QUALITY REVIEW

The Clean Air Act requires U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. The criteria pollutants for which there are primary and secondary NAAQS include carbon monoxide (CO), particulate matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀), particulate matter

with an aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone (O₃) and Lead (Pb). Primary standards provide protection of public health, including protecting the health of sensitive populations, with an adequate margin for safety. Secondary standards provide protection of public welfare, including protection against decreased visibility and damage to animals, crops, vegetation and buildings. U.S. EPA periodically reviews, revises and establishes new standards based on the latest available scientific information on the nature of and ambient exposure to pollutants. To learn more about NAAQS for criteria pollutants, visit <https://www.epa.gov/criteria-air-pollutants>. The NAAQS is a maximum allowable concentration ceiling for a pollutant. An ambient air increment is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and is the ambient concentration existing at the time the first Prevention of Significant Deterioration (PSD) permit application affecting the area is submitted. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. It is important to note, that the air quality cannot be allowed to deteriorate beyond the concentration allowed by the NAAQS, even if not all the PSD increment is consumed. To learn more about ambient air increments, visit <https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information>. In addition to the NAAQS which apply to criteria pollutants, Wisconsin has established ambient air standards for approximately 550 hazardous air contaminants that are known or suspected to cause cancer or other serious health impacts or adverse environmental effects.

Section 285.63(1)(b), Wis. Stats. allows the department to approve a permit application only if it finds the source will not cause or exacerbate a violation of any ambient air quality standard or ambient air increment. See the Preliminary Determination section for additional information and other criteria for permit approval. This section describes the department's finding under s. 285.63(1)(b), Wis. Stats.

Intermittent sources: Emissions unit P61, an emergency engine, is an intermittent source because it does not have a set operating schedule, operates for short periods of time during the year (generally outside of the facilities' control) and does not contribute to the normal operation of the facility. This intermittent emissions unit is not included in the dispersion modeling analysis described below.

Volatile organic compounds: The emissions units covered by this permit emit volatile organic compounds. Volatile organic compounds are precursors to ozone. Ozone is a regional pollutant which is formed in the atmosphere through complex chemical reactions. There is no approved dispersion model for predicting the impact VOC emissions from direct stationary sources will have on ozone concentrations. There are no ambient air quality standards specifically for VOCs. Therefore, dispersion modeling of VOC emissions from direct stationary sources is not performed.

PM_{2.5}: The emissions units covered by this permit emit PM_{2.5}. For the reasons described in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines", dated March 2018, the department has concluded that direct PM_{2.5} emissions from existing sources, minor new sources, and minor modifications of sources do not cause or exacerbate violation of the PM_{2.5} air quality standard or increment. This conclusion and the information contained in Appendix B of the "Wisconsin Air Dispersion Modeling Guidelines" serves as the department's finding pursuant to s. 285.63(1)(b), Wis. Stats for the PM_{2.5} air quality standard and increment and sets forth the legal and factual basis for the draft permit conditions.

Nitrogen oxides: Emissions unit B28 is a combustion unit with a heat input rating of at least 250 MMBtu per hour. These types of units are considered large and comparatively steady sources of NO_x emissions. The dispersion modeling analysis described below assesses the impact of the emissions units at facility that emit NO_x on 1-hour and annual NO₂ concentrations.

PM₁₀, SO₂, and CO: The emissions units covered by this permit emit PM₁₀, SO₂, and CO. The department performed a dispersion modeling analysis as part of the review for this permit to predict the source's *potential* impact on ambient concentrations of these pollutants. See the dispersion modeling analysis described below.

The results of the dispersion modeling are summarized in a memo dated May 31, 2024 and are shown below. The dispersion modeling predicts that the source impact will not cause or exacerbate a violation of the ambient air quality standards and ambient air increments, taking into consideration background concentrations. The assumptions used in the dispersion modeling, including emission rates and stack parameters are summarized below.

MODELING RESULT MEMO

A. INTRODUCTION

A dispersion modeling analysis was completed on May 31, 2024 to assess the impact to ambient air of the particulate matter (PM₁₀), nitrogen oxide (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂) emissions from sources at Ahlstrom Rhineland, in Rhineland, Oneida County. This analysis was in support of operation permit renewal 74400810A-P30.

B. MODELING ANALYSIS

- Ahlstrom Rhineland supplied the emission rates and source parameters used in this analysis. Building dimensions were determined using BPIP-PRIME with measurements taken on plot plans provided with the application. Please refer to the source table for details.
- Five years (2016-2020) of preprocessed meteorological data was used in this analysis. The surface data was collected in Rhineland (KRHI), and the upper air meteorological data originated in Green Bay.
- The AERMIC (AMS/EPA Regulatory Model Improvement Committee) Model (AERMOD) was also used in the analysis. The model used rural dispersion coefficients with the regulatory default options. These allow for calm wind and missing data correction, buoyancy induced dispersion, and building downwash including recirculation cavity effects.
- The receptors used in this analysis consisted of a rectangular grid of 3,098 points with 25-meter resolution extending 500 meters from the facility, surrounded by 50-meter spaced points extending 1 kilometer. Points inside Rhineland fences, or otherwise excluded from ambient air, were not considered. Receptor elevations were derived from AERMAP using the National Elevation Dataset.
- Regional background concentrations included in the analysis can be found at the following link: <https://dnr.wisconsin.gov/sites/default/files/topic/AirPermits/2021BackgroundConcentrations.pdf>
- The Oneida County PSD minor source baseline for NO_x was set in 1995. Minor source baselines for PM₁₀ and SO₂ have not been set. An increase in the potential emissions of a facility since those dates may consume increment. Several sources at Ahlstrom consume NO₂ increment, so an increment analysis was performed. There are no other nearby increment consuming sources.

C. MODEL RESULTS

The results of the dispersion modeling analysis indicate that all air quality standards will be met assuming the emission rates and stack parameters listed in the source tables.

Table 57. Modeling Analysis Results: SO ₂ , PM ₁₀ , and CO (All Concentrations in µg/m ³)					
	SO ₂ 1 Hour	SO ₂ 3 Hour	PM ₁₀ 24 Hour	CO 1 Hour	CO 8 Hour
Total Concentration (Modeled plus Background)	9.18	8.62	90.5	548.9	460.6
NAAQS	196.2	1,300.	150.0	40,000	10,000
% NAAQS	4.7	0.7	60.3	1.3	4.6

Table 58. Modeling Analysis Results: NO ₂ (All Concentrations in µg/m ³)		
	NO ₂ – 1 Hour	NO ₂ - Annual
New/Modified Source Impact	n/a	0.46
PSD Class II Increment	n/a	25.0
% Increment Consumed	n/a	1.8
Total Concentration (Modeled plus Background)	53.7	12.3
NAAQS	188.0	100.0
% NAAQS	28.6	12.3

Note: The USEPA and WDNR Ambient Ratio Method Tier II was applied to convert NO_x emissions into NO₂

D. CONCLUSION

The results of the modeling analysis demonstrate that the applicable air quality standards will be satisfied assuming the emissions rates and stack parameters listed in the source tables.

Table 59. AHLSTROM RHINELANDER (Oneida County) Point Source Stack Parameters ⁹						
Source ID	LOCATION (UTM83)	HEIGHT (M)	HEIGHT (FT)	TEMP (K)	VELOC (M/S)	DIAM (M)
S08	311322, 5056924	35.66	117	438.6	20.08	1.68
S11	311395, 5056826	60.96	200	436.0	3.420	3.51
S12	311315, 5056920	15.24	50	630.0	9.510	1.68
S13	311165, 5056856	14.33	47	421.9	10.78	0.91
S16	311188, 5056836	10.67	35	371.9	4.678	1.19

Note: Stack S16 has non-vertical discharge modeled as POINTHOR source type

Table 60. AHLSTROM RHINELANDER (Oneida County) Emission Rates				
Source ID	PM ₁₀ Rate (LB/HR)	NO _x Rate (LB/HR)	SO ₂ Rate (LB/HR)	CO Rate (LB/HR)
S08	17.1	27.0	13.9	47.6
S11	1.43	15.0	0.060	10.8
S12	15.0	3.60	0.060	3.75

⁹ The source parameters in the table were used for modeling purposes, based on conversion from English units. Refer to the permit application forms or submittals in support of the application for the original English unit parameters.

Table 60. AHLSTROM RHINELANDER (Oneida County) Emission Rates				
Source ID	PM ₁₀ Rate (LB/HR)	NO _x Rate (LB/HR)	SO ₂ Rate (LB/HR)	CO Rate (LB/HR)
S13	1.10	2.44	0.015	2.05
S16	4.41	0.80	0.010	0.67

Note: Increment consuming emissions and sources in **bold**

8 SOURCE CLASSIFICATION

The status of the facility is discussed in this section with respect to Prevention of Significant Deterioration (PSD), Non-Attainment Area (NAA), and Part 70 applicability. This discussion identifies whether the existing facility, and the facility after the project are major or minor sources with respect to Part 70 and either PSD or NAA. For PSD, major stationary source has the meaning given in s. NR 405.02(22), Wis. Adm. Code. For Part 70, major source has the meaning given in s. NR 407.02(4), Wis. Adm. Code. For NAA, major source has the meaning given in s. NR 408.02(21), Wis. Adm. Code. The major source thresholds for determining Part 70 status are potential emissions of 100 tons per year of any air contaminant subject to regulation under the Clean Air Act other than particulate matter. For particulate matter, a source is major for Part 70 if it has potential emissions of 100 tons per year or more of PM₁₀. The major source thresholds for determining Part 70 status also include potential emissions of 10 tons per year of any single federal hazardous air pollutants (HAPs), and 25 tons per year cumulative for all federal HAPs emitted by the facility. A source classified as synthetic minor is a stationary source that has its potential to emit limited by legally and practicably enforceable permit conditions so that it is not a major source.

TOTAL FACILITY EMISSIONS

The total facility emissions from Section 5.3.7. are repeated here for convenience.

A. Table 61. Total Facility Emissions – Criteria Pollutants.

	PM		PM ₁₀		PM _{2.5}		SO ₂		NO _x		VOC		CO		Lead		GHG	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PTE	10.21	25.37	8.26	24.97	5.67	19.78	14.34	.45	58.74	188.95	32.64	1630	48.1	207.56	0.0032	0.0138	---	324,800
MTE	10.21	43.68	8.26	35.08	5.67	23.79	139.44	609.95	78.74	330.95	418.64	1833	48.1	207.56	0.0032	0.0138	---	324,900

B. Table 62. Total Facility Emissions – Hazardous Air Pollutants			
Pollutant	Type (F,S)	MTE, TPY	PTE, TPY
Acetaldehyde	F, S	3.67	3.67
Acrolein	F, S	1.78E-05	7.12E-06
Ammonia	S	11.68	8.79
Arsenic	F, S	0.005	0.0008
Barium	S	0.0118	0.0118
Benzene	F, S	0.0059	0.0057
Beryllium	F, S	0.0036	0.00017
1,3-Butadiene	F, S	7.5E-06	3.01E-06
Cadmium	F, S	0.0052	0.0031
Chloroform	F, S	0.4	0.04
Chromium	F, S	0.0057	0.0039
Cobalt	F, S	0.00054	0.00054
Copper	S	0.0084	0.0026
Dichlorobenzene	F, S	0.0032	0.0032
Formaldehyde	F, S	23.53	23.12
Hexane	F, S	4.86	4.86
Manganese	F, S	0.0077	0.0013

Pollutant	Type (F,S)	MTE, TPY	PTE, TPY
Mercury	F, S	0.004	0.0009
Methanol	F	4.03	4.03
Molybdenum	S	0.003	0.003
Naphthalene	F, S	0.0016	0.0016
Nickel	F, S	0.0067	0.0057
Phenol	F, S	1.34	1.34
Polycyclic Organic Matter (POM)	F	0.029	0.0028
Propionaldehyde	F	0.97	0.97
Toluene	F, S	1165	58.3
Vanadium pentoxide	S	0.0111	0.0111
Xylene	F, S	224	11.2
Total of all federal HAPs		1428	108

Existing Facility Status

The facility is not located in an area designated as nonattainment for any pollutant.

The facility is a major Part 70 source because the potential nitrogen oxide, volatile organic compound, and carbon monoxide emissions are greater than 100 tons per year. The potential emissions of each other criteria pollutant are less than 100 tons per year.

The facility is a major source of hazardous air pollutants regulated by the Clean Air Act (federal HAPs) because the potential emissions of toluene and xylene are greater than 10 tons per year, and the potential emissions of all federal HAPs combined are greater than 25 tons per year.

The facility is a major source for Prevention of Significant Deterioration (PSD) purposes because the source includes fossil fuel boilers totaling more than 250 million British thermal units per hour heat input, which is one of the stationary source types listed in s. NR 405.02(22)(a)1., Wis. Adm. Code, and the potential nitrogen oxide, volatile organic compound, and carbon monoxide emissions are greater than 100 tons per year.

Facility Status After Issuance of Permits

The facility status will not change as a result of this permit.

Source Status Summary

Program ^b	Existing Facility			After Permit Issuance		
	Major ^c	Synthetic Minor ^d	Minor	Major	Synthetic Minor	Minor
PSD	X			X		
NAA NSR	Not applicable			Not applicable		
Part 70 ^e	X			X		
Federal HAPs	X			X		
EPA Class Code ^f	A			A		

^a A facility can only have one overall classification for each program. If a facility has potential emissions of a single pollutant which exceed the major source thresholds for Part 70, including the major source thresholds for HAPs, the facility is a Part 70 source. The same applies for the EPA class code and the source status for PSD. A facility can be a Part 70 source for criteria pollutants and an area (i.e. minor)

source of HAPs. If a facility is a major source of HAPs, it is a Part 70 source.

- ^b As required by 40 CFR s. 70.5(c)(3)i., emission estimates sufficient to verify which requirements are applicable to the source are included in this analysis. Based on the definitions in ss. NR 400.02(123m) and (124), Wis. Adm. Code, direct PM_{2.5} emissions cannot exceed PM₁₀ emissions. Since PM₁₀ and PM_{2.5} have the same major source thresholds, emission estimates of PM₁₀ are sufficient for determining Part 70 and PSD source status with respect to both PM_{2.5} and PM₁₀.
- ^c For PSD, major stationary source has the meaning given in s. NR 405.02(22), Wis. Adm. Code. For nonattainment areas (NAA), major stationary source has the meaning given in s. NR 408.02(21), Wis. Adm. Code. For Part 70, major source has the meaning given in s. NR 407.02(4), Wis. Adm. Code.
- ^d A source classified as synthetic minor is a stationary source that has maximum theoretical emissions greater than the major source threshold and has its potential to emit limited by legally and practicably enforceable permit conditions so that it is not a major source. There are two categories of synthetic minor sources for EPA Class Code, SM80 and SM.
- ^e Part 70 source is defined in s. NR 407.02(6), Wis. Adm. Code. Note: When determining whether a stationary source is a major source for particulate matter, a stationary source is a Part 70 major source if it emits or has the potential to emit, 100 tpy or more of PM₁₀ per s. NR 407.02(4)(b), Wis. Adm. Code.
- ^f EPA Class Codes: "A" means the source's maximum theoretical emissions and potential to emit for one or more pollutants are greater than Part 70 major source thresholds. "SM80" means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds and potential to emit is at least 80% but less than 100% of Part 70 major source thresholds. "SM" means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds but potential to emit for all pollutants is less than 80% of Part 70 major source thresholds. "B" means the source's maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds.

Pollutant Specific EPA Class Code

Pollutant specific classifications are used for compliance purposes. A facility can only have one overall EPA class code. The facility's EPA class code is shown in the previous section.

Pollutant	A	SM80	SM	B
PM				X
PM ₁₀				X
PM _{2.5}				X
SO ₂				X
NO _x	X			
CO	X			
VOC	X			
Pb				X
Individual CAA HAPs	X			
Total CAA HAPs	X			

EPA Class Codes:

A means the source's maximum theoretical emissions and potential to emit for one or more pollutants are greater than Part 70 major source thresholds.

SM80 means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds and potential to emit is at least 80% but less than 100% of Part 70 major source thresholds.

SM means the source's maximum theoretical emissions of one or more pollutants are greater than Part 70 major source thresholds but potential to emit for all pollutants is less than 80% of Part 70 major source thresholds.

B means the source's maximum theoretical emissions and potential to emit for all pollutants are less than major source thresholds.

9 STATUS UNDER WISCONSIN ENVIRONMENTAL POLICY ACT (WEPA)

An operation permit renewal is considered a minor action under s. NR 150.20(1m)(o), Wis. Adm. Code and as such, is compliant with WEPA and does not require a determination prior to permit issuance.

10 STATUS UNDER WISCONSIN HISTORIC PRESERVATION PROGRAM

Section 44.40(1), Wis. Stats., requires each state agency to consider whether any proposed agency action will affect any historic property that is a listed property, on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats. Listed property means property which is listed on the national register of historic places in Wisconsin or the state register of historic places, or both. This section describes the department's obligations for this permit action under the Historic Preservation Program in s. 44.40, Wis. Stats., and the Memorandum of Agreement (MOA) with the Wisconsin Historical Society (WHS).

The proposed project is for the renewal of an operation permit for an existing source. Permit renewals for existing sources of air emissions issued under s. 285.66(3), Wis. Stats., are exempt from review under s. 44.40, Wis. Stats., and the federal and state compliance procedures in the MOA with the WHS.

The proposed project includes the revision of construction permits and does not involve construction of over 10,000 square feet. Permits that do not involve construction of over 10,000 square feet outside an existing structure are exempt from review under s. 44.40, Wis. Stats., and the federal and state compliance procedures in the MOA with the WHS.

11 PRELIMINARY DETERMINATION FOR OPERATION PERMIT 74400810A-P30

As set forth in the criteria for permit approval in s. 285.63, Wis. Stats, the department may approve the application for an operation permit required or allowed under s. 285.60, Wis. Stats. if it finds:

- (a) The stationary source will meet all applicable emission limitations and other requirements promulgated under ch. 285, Wis. Stats., standards of performance for new stationary sources under s. 285.27(1), Wis. Stats. and emission standards for hazardous air contaminants under s. 285.27(2), Wis. Stats.; and
- (b) The source will not cause or exacerbate a violation of any ambient air quality standard or ambient air increment under s. 285.21(1) or (2), Wis. Stats.

As set forth in s. 285.62, Wis. Stats., the department has reviewed application and other materials submitted by Ahlstrom Rhineland LLC for 74400810A-P30 and hereby makes a preliminary determination that it may approve the permit application and may issue an operation permit with the applicable limits and conditions contained in the draft permit. Furthermore, the department hereby makes a preliminary finding that the criteria for permit approval as set forth in ss. 285.63 and 285.64, Wis. Stats. will be met provided the source operates in accordance with the conditions of the draft permit. After providing an opportunity for public input in accordance with s. 285.62, Wis. Stats. and reviewing all comments received, the department will make a final decision regarding whether the criteria established under ss. 285.63 and 285.64, Wis. Stats. are met and whether an operation permit may be issued. The applicable limits and conditions in the draft permit 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 for any Part-70 source prior to the department making a final decision on the operation permit.

COMMONLY USED ACRONYMS AND ABBREVIATIONS:

acfm	Actual cubic feet per minute	MTE	Maximum Theoretical Emissions
AP-42	Compilation of Air Pollutant Emission Factors	MW	Megawatts
BACT	Best Available Control Technology	n/a	Not Applicable
BTU or btu	British Thermal Unit	N ₂ O	Nitrous Oxide
°C	Degrees Celsius	NAA	Non-Attainment Area
CAA	Federal Clean Air Act	NAAQS	National Ambient Air Quality Standards
CAM	Compliance Assurance Monitoring	NESHAP	National Emission Standard for Hazardous Air Pollutants
CEM	Continuous Emission Monitoring	NMOC	Non-methane Organic Compounds
CFR	Code of Federal Regulations	NO ₂	Nitrogen Dioxide
CH ₄	Methane	NO _x	Oxides of Nitrogen
CI	Compression Ignition	NSCR	Non-Selective Catalytic Reduction
CO	Carbon Monoxide	NSPS	New Source Performance Standards
CO ₂	Carbon Dioxide	NSR	New Source Review
CO ₂ e	Carbon Dioxide Equivalents	Pb	Lead
COMS	Continuous Opacity Monitoring System	PHAP	Hazardous Air Pollutant Emitted as a Particulate
Department	Wisconsin Department of Natural Resources	PM	Particulate Matter
dscf	Dry standard cubic foot	PM ₁₀	Particulate Matter less than 10 microns in diameter
dscm	Dry standard cubic meter	PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
EPA	United States Environmental Protection Agency	ppm	Parts per million
ESP	Electrostatic Precipitator	ppmdv	Parts per million dry volume
°F	Degrees Fahrenheit	ppmv	Parts per million by volume
FESOP	Federal Enforceable State Operating Permit	ppmw	Parts per million by weight
FID	Facility Identification Number	PSD	Prevention of Significant Deterioration
FOP	Federal Operating Permit	psia	Pounds per square inch absolute
ft	Feet	psig	Pounds per square inch gauge
g	Grams	PTE	Potential to Emit
GACT	Generally Available Control Technology	RACT	Reasonable Available Control Technology
GCP	General Construction Permit	RCP	Registration Construction Permit
GHG	Greenhouse Gas	RICE	Reciprocating Internal Combustion Engine
GOP	General Operation Permit	ROG	Reactive Organic Gases
gr	Grains	ROP	Registration Operating Permit
GWP	Global Warming Potential	s.	Section

COMMONLY USED ACRONYMS AND ABBREVIATIONS:

HAP	Hazardous Air Pollutant	scf	Standard cubic feet
Hg	Mercury	sec	Seconds
hr	Hour	SCR	Selective Catalytic Reduction
hp	Horsepower	SDS	Safety Data Sheet
H ₂ S	Hydrogen Sulfide	SI	Spark Ignition
HVLP	High Volume Low Pressure	SNCR	Selective Non-Catalytic Reduction
Kg	Kilogram	SO ₂	Sulfur Dioxide
kW	Kilowatt	SOP	State Operating Permit
LACT	Latest Available Control Techniques	Temp	Temperature
LAER	Lowest Achievable Emission Rate	THC	Total Hydrocarbons
lb	Pound	TPY	Tons per year
m	Meter	µg	Microgram
MACT	Maximum Achievable Control Technology	VE	Visible Emissions
MPAP	Malfunction, Prevention, and Abatement Plan	VHAP	Hazardous Pollutant Emitted as a Vapor
mg	Milligram	VOC	Volatile Organic Compounds
mm	Millimeter	Wis. Adm. Code	Wisconsin Administrative Code
MM	Million	Wis. Stats.	Wisconsin Statutes
MMBtu/hr	Million British Thermal Units Per Hour	yr	Year
		MTE	Maximum Theoretical Emissions