ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD
REPEALING, RENUMBERING AND AMENDING, AMENDING,
REPEALING AND RECREATING AND CREATING RULES

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 460.08(2)(d)4. and 460.09(5)(c)1.c.; to **renumber and amend** NR 460.06(4)(b)3. and 4., 460.09(2)(b)7. and 484.10(29); to **amend** NR 439.08(1)(a) to (g) and (2)(b), 439.085(2)(a)1., (b)1. and (c)1., 460.01(1)(e)(intro.), and (2) Note, 460.02(intro.), (5) and (22), 460.06(4)(b)(intro.), 1. and 2. and (5)(a), (b)3. and (c), 460.07(6)(a)(intro.) and (c)1. and (7)(e), 460.09(6)(a), (b), (c) and (d)(intro.), 460.10(2)(h), 484.03(intro.), 484.04(intro.) and (9), 484.10(intro.), (3), (5), (14) to (17), (20), (22), (25), (26), (30), (31), (33), (36), (41), (42), (43), (47), (48), (51), (52), (53), (55) and (56) and 484.11(intro.); to **repeal and recreate** NR 460.10(2)(f); and to **create** NR 460.02(5m), (14m), (22g), (22r), (23e), (23m), (23s), (24e), (24m) and (24s), 460.06(4)(b)3. and (5)(a) Note and (b)4., 460.07(6)(a)(intro.) Note, 460.09(2)(b)7.a. to c. and (6)(a) Note, NR 460 Appendix S, ch. NR 464, NR 484.03(6), 484.04(25g) and (25r) and 484.11(9), relating to hazardous air pollutant emissions from pulp and paper mills.

AM-38-00

Commented [RWP1]: This is Draft #6C, 9/26/2001, the final draft printed out for the adoption green sheet package. It includes corrections from Carol Turner and update of ASTM E84 to E84-01, since E84-00a is no longer available from ASTM. Draft #6A, 9/24/2001, was the same as Draft #6 of 9/21/2001 except for a missing underline which was needed in s. NR 484.10(25) (marked with black font). Draft #6 was the same as Draft #5 I except for the removal of colored fonts and comments. See Draft #5 I for comments tracking earlier changes.

Analysis Prepared by the Department of Natural Resources

Authorizing statutes: ss. 227.11(2)(a), 285.11(1) and 285.27(2), Stats.

Statutes interpreted: ss. 285.11(6) and 285.27(2), Stats. For updating changes, the State Implementation Plan developed under s. 285.11(6), Stats., is revised.

This proposed order will incorporate into state rules existing national emission standards for hazardous air pollutants (NESHAP) for pulp and paper mills. These standards took effect on April 15, 1998, and are intended to protect public health by requiring the control of emissions of hazardous air pollutants (HAP), as identified under the federal Clean Air Act, to the level attainable by implementing the maximum achievable control technology. Sources affected are new and existing facilities which are involved in the manufacture or processing of paper pulp, and which have the potential to emit more than 10 tons per year of a single HAP or more than 25 tons per year of any combination of HAP. The standards include emission limitations for pulp production and pulp bleaching.

Also included in this order are updating changes to the general NESHAP provisions of ch. NR 460 bearing on when alternative monitoring, testing and recordkeeping or reporting procedures may be approved by the Department, and updating changes to certain test methods which are cited in ch. NR 439 and/or incorporated by reference in ch. NR 484. The consent of the Attorney General and the Revisor of Statutes will be requested for incorporation by reference of new and updated test methods.

SECTION 1. NR 439.08(1)(a) to (g) and (2)(b) are amended to read:

NR 439.08 (1)(a) *Coal sampling.* Coal sampling shall be performed according to ASTM ~~D2234-98~~ D2234-00, Standard Practice for Collection of a Gross Sample of Coal, incorporated by reference in s. NR 484.10(33).

(b) *Preparing coal for analysis.* Preparation of a coal sample for analysis shall be performed according to ASTM ~~D2013-86 (1994)~~ D2013-00ae1, Standard Method of Preparing Coal Samples for Analysis, incorporated by reference in s. NR 484.10(30).

(c) *Sulfur content in coal.* The sulfur content of a coal sample shall be determined according to ASTM D3177-89, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke, or ASTM ~~D4239-94~~ D4239-00, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, both incorporated by reference in s. NR 484.10(45) and (53).

(d) *Heat content in coal.* The heat content of a coal sample shall be determined according to ASTM ~~D1989-96~~ D5865-99a, Standard Test Method for Gross Calorific Value of Coal and Coke ~~by Microprocessor Controlled Isoperibol Calorimeters, or ASTM D2015-96, Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter,~~ incorporated by reference in s. NR 484.10~~(29) and (31)~~ (55g).

(e) *Ash content in coal.* The ash content of a coal sample shall be determined according to ASTM ~~D3174-93~~ D3174-00, Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal, incorporated by reference in s. NR 484.10(43).

(f) *Moisture content in coal.* The moisture content of a coal sample shall be determined according to ASTM ~~D3173-87 (1996)~~ D3173-00, Standard Test Method for Moisture in the Analysis Sample of Coal

and Coke, incorporated by reference in s. NR 484.10(42).

(g) *Ultimate analysis of coal.* The ultimate analysis of a coal sample shall be determined according to ASTM D3176-89, Standard Practice for Ultimate Analysis of Coal and Coke, incorporated by reference in s. NR 484.10(44).

(2)(b) *Sulfur content in liquid fossil fuel.* The sulfur content of a liquid fossil fuel sample shall be determined according to ASTM ~~D129-95~~ D129-00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), ASTM ~~D1552-95~~ D1552-00, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), or ASTM D4294-98, Standard Test Method for Sulfur in Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectroscopy, incorporated by reference in s. NR 484.10(3), (25)~~,~~ and (54).

SECTION 2. NR 439.085(2)(a)1., (b)1. and (c)1. are amended to read:

NR 439.085(2)(a)1. Perform coal sampling, using the procedures in ASTM ~~D2234-98~~ D2234-00, incorporated by reference in s. NR 484.10(33), which result in data at least as reliable as classification I-B-1, defined in ASTM ~~D2234-98~~ D2234-00 as automatic sampling — full stream cut — systematic spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08(1).

(b)1. Perform coal sampling using the procedures in ASTM ~~D2234-98~~ D2234-00, which result in data at least as reliable as classification I-C-2, defined in ASTM ~~D2234-98~~ D2234-00 as automatic sampling — part stream cut — random spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08(1).

(c)1. Perform coal sampling using the procedures in ASTM ~~D2234-98~~ D2234-00, which result in

data at least as reliable as classification II-D-2, defined in ASTM ~~D2234-98~~ D2234-00 as manual sampling ~~—~~ stationary coal sampling ~~—~~ random spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08(1).

SECTION 3. NR 460.01(1)(e)(intro.) and (2) Note are amended to read:

NR 460.01(1)(e)(intro.) All references to 40 CFR part 60, 40 CFR part 61 and 40 CFR part 63 in this chapter mean those parts of the code of federal regulations as in effect on ~~July 1, 1996~~ the effective date of this paragraph … [revisor inserts date], with the following exceptions:

(2) Note: This chapter is based on federal regulations contained in 40 CFR part 63 ~~Subpart~~ subpart A as last revised on ~~September 1, 1995~~ February 12, 1999. The chapter also reflects the federal authority delegation provisions of 40 CFR part 63 subpart E as last revised on September 14, 2000. In addition to meeting the requirements of this chapter, any major new or reconstructed source subject to a relevant standard under 40 CFR part 63 is required to obtain a construction permit under ch. NR 406 as indicated in s. NR 406.04(2)(i). Also, most other new or modified sources are required to submit an operation permit application before commencing operation under s. NR 407.04(1)(b)3.

SECTION 4. NR 460.02(intro.), (5) and (22) are amended to read:

NR 460.02 Definitions. (intro.) For terms not defined in this section, the definitions contained in ch. NR 400 apply to the terms used in this chapter. In addition, the definitions in this section apply to the terms used in this chapter and, for terms not defined in chs. NR ~~460~~ 463 to 469, to the terms used in those chapters as well. If this section defines a term which is also defined in ch. NR 400, the definition in this section applies in this chapter and in chs. NR ~~460~~ 463 to 469 rather than the definition in ch. NR 400.

(5) "Area source" means any stationary source of hazardous air pollutants that is not a major source as defined in this chapter or chs. NR ~~460~~ 463 to 469.

(22) "Hazardous air pollutant" or "HAP" means any air pollutant included in the list in section 112(b)(1) of the act (42 USC 7412(b)(1)) as revised by 40 CFR part 63 ~~Subpart~~ subpart C.

SECTION 5. NR 460.02(5m), (14m), (22g), (22r), (23e), (23m), (23s), (24e), (24m) and (24s) are created to read:

NR 460.02(5m) "Capture device" means a hood, enclosed room, floor sweep or other means of collecting solvent emissions or other pollutants into a duct so that the pollutant can be directed to a pollution control device such as an incinerator or carbon adsorber.

(14m) "Control system" means the combination of capture and control devices used to reduce emission of air contaminants.

(22g) "Intermediate alternative monitoring" means federally required monitoring with modifications that involve technology generally accepted by the scientific community as equivalent or better, that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, intermediate modifications of this sort may set a national precedent for a source category and may ultimately result in a revision to the federally required monitoring. Examples of intermediate modifications to monitoring include, but are not limited to:

(a) Use of a continuous emission monitoring system in lieu of a parameter monitoring approach.

(b) Decreased frequency for non-continuous parameter monitoring or physical inspections.

(c) Changes to quality control requirements for parameter monitoring.

(d) Use of an electronic data reduction system in lieu of manual data reduction.

(22r) "Intermediate alternative test method" means a federally enforceable test method with modifications that involve technology generally accepted by the scientific community as equivalent or better,

that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, such intermediate modifications may set a national precedent for a source category and may ultimately result in a revision to the federally enforceable test method. In order to be approved, an intermediate modification shall be validated according to EPA Method 301 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04(25), to demonstrate that it provides equal or improved accuracy and precision. Examples of intermediate modifications to a test method include, but are not limited to:

(a) Modifications to a test method's sampling procedure including substitution of sampling equipment that has been demonstrated for a particular sample matrix, and use of a different impinger absorbing solution.

(b) Changes in sample recovery procedures and analytical techniques, such as changes to sample holding times and use of a different analytical finish with proven capability for the analyte of interest.

(c) "Combining" a federally required method with another proven method for application to processes emitting multiple pollutants.

(23e) "Major alternative monitoring" means federally required monitoring with modifications that use technology or procedures not generally accepted by the scientific community, or that is an entirely new method. These major modifications to monitoring may be site-specific or may apply to one or more source categories and will almost always set a national precedent. Examples of major modifications to monitoring include, but are not limited to:

(a) Use of a new monitoring approach developed to apply to a control technology not contemplated in the applicable regulation.

(b) Use of a predictive emission monitoring system in place of a required continuous emission monitoring system.

(c) Use of alternative calibration procedures that do not involve calibration gases or test cells.

(d) Use of an analytical technology that differs from that specified by a performance specification.

(e) Decreased monitoring frequency for a continuous emission monitoring system, continuous opacity monitoring system, predictive emission monitoring system or continuous parameter monitoring system.

(f) Decreased monitoring frequency for a leak detection and repair program.

(g) Use of alternative averaging times for reporting purposes.

(23m) "Major alternative test method" means a federally enforceable test method with modifications that use technology or procedures not generally accepted by the scientific community or that is an entirely new method. These major modifications to a test method may be site-specific, or may apply to one or more sources or source categories, and will almost always set a national precedent. In order to be approved, a major modification shall be validated according to EPA Method 301 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04(25). Examples of major modificatins to a test method include, but are not limited to:

(a) Use of an unproven analytical finish.

(b) Use of a method developed to fill a test method gap.

(c) Use of a new test method developed to apply to a control technology not contemplated in the applicable regulation.

(d) Combining 2 or more sampling or analytical methods, at least one being unproven, into one for application to processes emitting multiple pollutants.

(23s) "Major changes to recordkeeping and reporting" means:

(a) A modification to federally required recordkeeping or reporting that meets one of the following

criteria:

1. May decrease the stringency of the required compliance and enforcement measures for the relevant standards.

2. May have national significance.

3. Is not site-specific.

(b) Examples of major changes to recordkeeping and reporting include, but are not limited to:

1. Decreases in the record retention for all records.

2. Waiver of all or most recordkeeping or reporting requirements.

3. Major changes to the contents of reports.

4. Decreases in the reliability of recordkeeping or reporting, such as manual recording of monitoring data instead of required automated or electronic recording or paper reports where electronic reporting may have been required.

(24e) "Minor alternative monitoring" means:

(a) Federally required monitoring with modifications that meet all of the following criteria:

1. Do not decrease the stringency of the compliance and enforcement measures for the relevant standard.

2. Have no national significance.

3. Are site-specific, made to reflect or accommodate the operational characteristics, physical constraints or safety concerns of an affected source.

(b) Examples of minor modifications to monitoring include, but are not limited to:

1. Modifications to a sampling procedure, such as use of an improved sample conditioning system to reduce maintenance requirements.

2. Increased monitoring frequency.

3. Modification of the environmental shelter to moderate temperature fluctuation and thus protect the analytical instrumentation.

(24m) "Minor change to a test method" means:

(a) A modification to a federally enforceable test method that meets all of the following criteria:

1. Does not decrease the stringency of the emission limitation or standard.

2. Has no national significance.

3. Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints or safety concerns of an affected source.

(b) Examples of minor changes to a test method include, but are not limited to:

1. Field adjustments in a test method's sampling procedure, such as a modified sampling traverse or location to avoid interference from an obstruction in the stack, increasing the sampling time or volume, use of additional impingers for a high moisture situation, accepting particulate emission results for a test run that was conducted with a lower than specified temperature, substitution of a material in the sampling train that has been demonstrated to be more inert for the sample matrix.

2. Changes in recovery and analytical techniques such as a change in quality control or quality assurance requirements needed to adjust for analysis of a certain sample matrix.

(24s) "Minor change to recordkeeping or reporting" means:

(a) A modification to federally required recordkeeping or reporting that meets all of the following criteria:

1. Does not decrease the stringency of the compliance and enforcement measures for the relevant standards.

2. Has no national significance.

3. Is site-specific.

(b) Examples of minor changes to recordkeeping or reporting include, but are not limited to:

1. Changes to recordkeeping necessitated by alternatives to monitoring.

2. Increased frequency of recordkeeping or reporting, or increased record retention periods.

3. Increased reliability in the form of recording monitoring data, such as electronic or automatic recording as opposed to manual recording of monitoring data.

4. Changes related to compliance extensions granted pursuant to s. NR 460.05(7).

5. Changes to recordkeeping for good cause shown for a fixed short duration, such as facility shutdown.

6. Changes to recordkeeping or reporting that is clearly redundant with equivalent recordkeeping or reporting requirements.

7. Decreases in the frequency of reporting for area sources to no less than once a year for good cause shown, or for major sources to no less than twice a year, for good cause shown.

SECTION 6. NR 460.06(4)(b)(intro.), 1. and 2. are amended to read:

NR 460.06(4)(b)(intro.) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61 and 63 of title 40 of the code of federal regulations, incorporated by reference in s. NR 484.04(9), (13), (21), (23) and (25), unless ~~the department does~~ any of the following actions is taken:

1. ~~Specifies~~ The department specifies or approves, in specific cases, the use of a ~~test method with~~

~~minor changes in methodology~~ minor change to a test method.

2. ~~Approves~~ The department approves the use of an intermediate alternative test method, the results of which the department has determined to be adequate for indicating whether a specific affected source is in compliance.

SECTION 7. NR 460.06(4)(b)3. and 4. are renumbered NR 460.06(4)(b)4. and 5. and are amended to read:

NR 460.06(4)(b)4. ~~Approves~~ The department approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors.

5. ~~Waives~~ The department waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the department's satisfaction that the affected source is in compliance with the relevant standard.

SECTION 8. NR 460.06(4)(b)3. is created to read:

NR 460.06(4)(b)3. The administrator approves the use of a major alternative test method.

Note: Under 40 CFR 63.91(g) only EPA can approve major alternatives to test methods.

SECTION 9. NR 460.06(5)(a) is amended to read:

NR 460.06(5)(a) Until permission to use an alternative test method has been granted by the administrator or the department under this subsection, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

SECTION 10. NR 460.06(5)(a) Note is created to read:

NR 460.06(5)(a) Note: Under 40 CFR 63.91(g) only EPA can approve major alternatives to test methods.

SECTION 11. NR 460.06(5)(b)3. is amended to read:

NR 460.06(5)(b)3. Submits the results of the Method 301 validation process along with the notification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this subsection well in advance of the deadline specified in subd. 1. to ensure a timely review by the administrator or the department in order to meet the performance test date specified in this section or the relevant standard.

SECTION 12. NR 460.06(5)(b)4. is created to read:

NR 460.06(5)(b)4. Obtains written approval from the administrator for any major alternative test methods.

SECTION 13. NR 460.06(5)(c) is amended to read:

NR 460.06(5)(c) The department shall determine whether the owner or operator's validation of ~~the~~ a proposed intermediate alternative test method is adequate when the department approves or disapproves the site-specific test plan required under sub. (2). If the department finds reasonable grounds to dispute the results obtained by the Method 301 validation process, the department may require the use of a test method specified in a relevant standard.

SECTION 14. NR 460.07(6)(a)(intro.) is amended to read:

NR 460.07 (6)(a) *Alternatives.* (intro.) After receipt and consideration of written application, the

department may approve ~~alternatives to any~~ minor and intermediate alternative monitoring methods or procedures of 40 CFR part 63 or chs. NR 460 to 469 including, but not limited to, any of the following:

SECTION 15. NR 460.07(6)(a)(intro.) Note is created to read:

Note: Under 40 CFR 63.91(g) only EPA can approve major alternatives to monitoring methods.

SECTION 16. NR 460.07(6)(c)1. is amended to read:

NR 460.07(6)(c)1. An owner or operator who wishes to use ~~an~~ a minor or intermediate alternative monitoring method shall submit an application to the department as described in subd. 2. The application may be submitted at any time provided that the monitoring method is not used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring method is to be used to demonstrate compliance with a relevant standard, the application shall be submitted not later than with the site-specific test plan required under s. NR 460.06(2) or with the site-specific performance evaluation plan or at least 60 days before the performance evaluation is scheduled to begin.

SECTION 17. NR 460.07(7)(e) is amended to read:

NR 460.07(7)(e) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks and zero (low-level) and high-level adjustments may not be included in any data average computed under 40 CFR part 63 or under chs. NR 460 to 469. For owners or operators complying with the requirements of s. NR 460.09(2)(b)7., data averages shall include any data recorded during periods of monitor breakdown or malfunction.

SECTION 18. NR 460.08(2)(d)4. is repealed.

SECTION 19. NR 460.09(2)(b)7. is renumbered 460.09(2)(b)7.(intro.) and amended to read:

NR 460.09(2)(b)7.(intro.) All required measurements needed to demonstrate compliance with a relevant standard, including, but not limited to, 15-minute averages of continuous monitoring system data, raw performance testing measurements and raw performance evaluation measurements, that support data that the source is required to report. The following limitations apply:

SECTION 20. NR 460.09(2)(b)7.a. to c. are created to read:

NR 460.09(2)(b)7.a. This subdivision paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements under this subdivision, the owner or operator shall retain the most recent consecutive 3 averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

b. This subdivision paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements under this subdivision, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the

date of the most recent summary or excess emission report submitted to the department.

c. The department, upon notification to the source, may require the owner or operator to maintain all measurements as required by subd. 7. (intro.) if the department determines these records are required to more accurately assess the compliance status of the affected source.

SECTION 21. NR 460.09(5)(c)1.c. is repealed.

SECTION 22. NR 460.09(6)(a) is amended to read:

NR 460.09(6)(a) Until a waiver of a recordkeeping or reporting requirement has been granted by the administrator or the department under this subsection, the owner or operator of an affected source remains subject to the requirements of this section.

SECTION 23. NR 460.09(6)(a) Note is created to read:

NR 460.09(6)(a) Note: Under 40 CFR 63.91(g) only EPA can approve major changes to recordkeeping and reporting requirements.

SECTION 24. NR 460.09(6)(b), (c) and (d)(intro.) are amended to read:

NR 460.09(6)(b) Recordkeeping or reporting requirements may be waived upon written application to the administrator or, for minor changes, the department if~~, in the department's judgment,~~ the affected source is achieving the relevant standards, or the source is operating under a compliance date extension, or the owner or operator has requested a compliance date extension and the department is still considering that request.

(c) If an application for a waiver of recordkeeping or reporting is made for a minor change to recordkeeping or reporting, the application shall accompany the request for a compliance date extension under s. NR 460.05(7), any required compliance progress report or compliance status report required under 40 CFR part 63 or chs. NR 460 to 469 or in the source's part 70 permit, or an excess emissions and continuous monitoring system performance report required under sub. (5), whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the department that a waiver of recordkeeping or reporting is warranted.

(d)(intro.) The department shall approve or deny a request for a minor waiver of recordkeeping or reporting requirements under this subsection when it does whichever of the following is applicable:

SECTION 25. NR 460.10(2)(f) is repealed and recreated to read:

NR 460.10(2)(f) An owner or operator has the choice of adhering to the heat content specifications in subd. 2., and the maximum tip velocity specifications in par. (g) or (h), or adhering to the requirements in subd. 1.

1.a. Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0% (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2}-K_1)* K_2$$

where:

V_{max} is the maximum permitted velocity, m/sec

K_1 is the constant, 6.0 volume-percent hydrogen

K_2 is the constant, 3.9(m/sec)/volume-percent hydrogen

X_{H2} is the volume-percent of hydrogen, on a wet basis, as calculated by using ASTM D1946-90, incorporated by reference in s. NR 484.10(28)

b. The actual exit velocity of a flare shall be determined by the method specified in par. (g)1.

2. Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

where:

H_T is the net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C

K is a constant

$$1.740 \times 10^{-7} \left[\frac{1}{\text{ppmv}} \right] \left[\frac{\text{g-mole}}{\text{scm}} \right] \left[\frac{\text{MJ}}{\text{kcal}} \right]$$

where the standard temperature for (g-mole/scm) is 20°C

C_i is the concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-90, incorporated by reference in s. NR 484.10(28)

H_i is the net heat of combustion of sample component i, kcal/g-mole at 25°C and 760 mm Hg. The heat of combustion may be determined using ASTM D4809-95, incorporated by reference in

s. NR 484.10(55), if published values are not available or cannot be calculated

n is the number of sample components

SECTION 26. NR 460.10(2)(h) is amended to read:

NR 460.10(2)(h) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$V_{max} = ~~8.706~~ 8.71 + ~~0.7084~~ 0.708 (H_T)$

where:

V_{max} is the maximum permitted velocity, m/sec

~~8.706~~ 8.71 is a constant

~~0.7084~~ 0.708 is a constant

H_T is the net heating value as determined in par. (f)

SECTION 27. NR 460 Appendix S, to precede Appendix T, is created to read:

Chapter NR 460

Appendix S

General Provisions Applicability to Chapter NR 464

The general provisions of this chapter listed under the column heading "Reference" apply to sources subject to ch. NR 464 only if a Yes appears in the same row under the column heading "Applies to Chapter NR 464?". Certain provisions in other chapters which correspond to federal provisions in 40 CFR part 63 subpart A are also included in the Reference column.

Reference	Applies to Chapter NR 464?	Comment
NR 2.19 and 2.195	Yes	State public record and confidential information requirements apply
NR 460.01(1)(a)	Yes	This appendix specifies applicability of each paragraph in ch. NR 460 to ch. NR 464
NR 460.02	Yes	
NR 460.03	Yes	
NR 460.04	Yes	
NR 460.05(2)	No	Chapter NR 464 specifies compliance dates for sources subject to ch. NR 464
NR 460.05(3)	No	Chapter NR 464 specifies compliance dates for sources subject to ch. NR 464
NR 460.05(4)	Yes	
NR 460.05(5)	Yes	
NR 460.05(6)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.05(7)	Yes	
NR 460.06	Yes	
NR 460.07(1)(a)1.	Yes	
NR 460.07(1)(b)	Yes	
NR 460.07(1)(c)	Yes	
NR 460.07(2)(a)	Yes	
NR 460.07(2)(b)	No	Chapter NR 464 specifies locations to conduct monitoring
NR 460.07(2)(c)	Yes	
NR 460.07(3)(a)-(c)	Yes	
NR 460.07(3)(d)	No	Chapter NR 464 allows site specific determination of monitoring frequency in s. NR 464.09(14)(d)

Reference	Applies to Chapter NR 464?	Comment
NR 460.07(3)(e)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.07(3)(f)-(h)	Yes	
NR 460.07(4)	Yes	
NR 460.07(5)	Yes	
NR 460.07(6)(a)-(d)	Yes	
NR 460.07(6)(e)	No	Chapter NR 464 does not specify relative accuracy test for CEM's
NR 460.07(7)	Yes	
NR 460.08(1)	Yes	
NR 460.08(2)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard rather than the 120 days specified in s. NR 460.08(2)(b)
NR 460.08(3)	Yes	
NR 460.08(4)	No	Special compliance requirements are only applicable to kraft mills
NR 460.08(5)	Yes	
NR 460.08(6)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.08(7)(a)	Yes	
NR 460.08(7)(b)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.08(7)(c)	No	Chapter NR 464 does not specify relative accuracy tests, therefore no notification is required for an alternative
NR 460.08(8)	Yes	
NR 460.08(10)	Yes	
NR 460.09(1)-(3)	Yes	

Reference	Applies to Chapter NR 464?	Comment
NR 460.09(4)(a)	Yes	
NR 460.09(4)(b)	Yes	
NR 460.09(4)(c)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.09(4)(d)	Yes	
NR 460.09(4)(e)	Yes	
NR 460.09(5)(a)	Yes	
NR 460.09(5)(b)1.	Yes	
NR 460.09(5)(b)2.	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.09(5)(c)	Yes	
NR 460.09(5)(d)	No	Pertains to continuous opacity monitors that are not part of this standard
NR 460.09(6)	Yes	
NR 460.10	Yes	

SECTION 28. Chapter NR 464 is created to read:

CHAPTER 464

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

FROM THE PULP AND PAPER INDUSTRY

NR 464.01 Applicability; purpose. (1) APPLICABILITY. (a) The provisions of this chapter apply to the owner or operator of processes that produce pulp, paper or paperboard; that are located at a

plant site that is a major source as defined in s. NR 460.02(24) and that use the any of following processes and materials:

1. Kraft, soda, sulfite or semi-chemical pulping processes using wood.

2. Mechanical pulping processes using wood.

3. Any process using secondary or non-wood fibers.

(b) The affected source to which the existing source provisions of this chapter apply is as follows:

1. For the processes specified in par. (a)1., the affected source is the total of all HAP emission points in the pulping and bleaching systems.

2. For the processes specified in par. (a)2. or 3., the affected source is the total of all HAP emission points in the bleaching system.

(c) The new source provisions of this chapter apply to the total of all HAP emission points at new or existing sources as follows:

1. Each affected source defined in par. (b)1. that commences construction or reconstruction after December 17, 1993.

2. Each pulping system or bleaching system for the processes specified in par. (a)1. that commences construction or reconstruction after December 17, 1993.

3. Each additional pulping or bleaching line at the processes specified in par. (a)1. that commences construction after December 17, 1993.

4. Each affected source defined in par. (b)2. that commences construction or reconstruction after March 8, 1996.

5. Each additional bleaching line at the processes specified in par. (a)2. or 3. that commences construction after March 8, 1996.

(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in par. (e) and subds. 1. and 2.:

1. Each kraft pulping system shall achieve compliance with the pulping system provisions of s. NR 464.03 for the equipment listed in s. NR 464.03(1)(a)2. to 5. as expeditiously as practicable, but in no event later than April 17, 2006, and the owners and operators shall establish dates, update dates and report the dates for the milestones specified in s. NR 464.11(2).

2. Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of s. NR 464.05 as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 to 430.17 and 430.44 to 430.47.

(e) Each bleaching system complying with the voluntary advanced technology incentives program for effluent limitation guidelines in 40 CFR 430.24 shall, for the effluent limitation guidelines and standards in 40 CFR 430.24, comply with the bleach plant provisions of 40 CFR 63.445 as expeditiously as practicable, but in no event later than April 16, 2001, or shall comply with all of the following:

1. The owner or operator of a bleaching system shall comply with the bleach plant provisions of s. NR 464.05 as expeditiously as practicable, but in no event later than April 15, 2004.

2. The owner or operator of a bleaching system shall comply with the requirements specified in either of the following:

a. Not increase the application rate of chlorine or hypochlorite, in kg of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the 3 months prior June 15, 1998, until the requirements of subd. 1. are met, and record application rates as specified in s. NR 464.10(3).

b. Comply with enforceable effluent limitations guidelines for 2,3,7,8-tetrachloro-dibenzo-p-dioxin and adsorbable organic halides at least as stringent as the baseline best available technology economically achievable levels set in 40 CFR 430.24(a)(1) as expeditiously as possible, but in no event later than April 16, 2001.

3. Owners and operators shall establish dates, update dates and report the dates for the milestones specified in s. NR 464.11(2).

(f) Each new source, specified as the total of all HAP emission points for the sources specified in par. (c), shall achieve compliance upon startup or by June 15, 1998, whichever is later, as provided in s. NR 460.05(2).

(g) Each owner or operator of an affected source with affected process equipment shared by more than one type of pulping process shall comply with the applicable requirement in this chapter that achieves the maximum degree of reduction in HAP emissions.

(h) Each owner or operator of an affected source specified in pars. (a) to (c) shall comply with the requirements of ch. NR 460, according to the applicability of ch. NR 460 to the sources, as indicated in Appendix S of ch. NR 460.

(i) All references to 40 CFR part 63 and 40 CFR part 430 in this chapter mean those parts of the code of federal regulations as in effect on the effective date of this chapter … [revisor inserts date], except that in the case of CFR provisions incorporated by reference in ch. NR 484, if a more recent date is specified in the applicable section of ch. NR 484, that date shall apply.

Note: Compliance dates are federally enforceable under 40 CFR 63.440 prior to the effective date of this section.

(2) PURPOSE. This chapter is adopted under ss. 285.27(2) and 285.65, Stats., to establish emission standards for hazardous air pollutants from the pulp and paper industry.

Note: This chapter is based on the federal regulations contained in 40 CFR part 63 subpart S, created April 15, 1998, as last revised on December 22, 2000.

NR 464.02 Definitions. For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms used in this chapter, with definitions in ch. NR 460 taking priority over definitions in ch. NR 400. In addition, the definitions in this section apply to the terms used in this chapter. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this chapter. In this chapter:

(1) "Acid condensate storage tank" means any storage tank containing cooking acid following the sulfur dioxide gas fortification process.

(2) "Black liquor" means spent cooking liquor that has been separated from the pulp produced by the kraft, soda or semi-chemical pulping process.

(3) "Bleaching" means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

(4) "Bleaching line" means a group of bleaching stages arranged in series such that bleaching of the pulp progresses as the pulp moves from one stage to the next.

(5) "Bleaching stage" means all process equipment associated with a discrete step of chemical application and removal in the bleaching process including chemical and steam mixers, bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed.

(6) "Bleaching system" means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including

the final bleaching stage.

(7) "Boiler" means any enclosed combustion device that extracts useful energy in the form of steam. A boiler is not considered a thermal oxidizer.

(8) "Chip steamer" means a vessel used for the purpose of preheating or pretreating wood chips prior to the digester, using flash steam from the digester or live steam.

(9) "Closed-vent system" means a system that is not open to the atmosphere and is composed of piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

(10) "Combustion device" means an individual unit of equipment, including but not limited to, a thermal oxidizer, lime kiln, recovery furnace, process heater or boiler, used for the thermal oxidation of organic hazardous air pollutant vapors.

(11) "Day" means any 24 hour period corresponding to either midnight to midnight or to the actual 24 hour production day used by a specific facility.

(12) "Decker system" means all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage. The decker system includes decker vents, filtrate tanks, associated vacuum pumps, and any other equipment serving the same function as those previously listed.

(13) "Digester system" means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tanks, blow tanks, chip steamers not using live steam, blow heat recovery accumulators, relief gas condensers, prehydrolysis units preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with

batch or continuous digester relief, blow or flash steam processes.

(14) "Emission point" means any part of a stationary source that emits hazardous air pollutants regulated under this chapter, including emissions from individual process vents, stacks, open pieces of process equipment, equipment leaks, wastewater and condensate collection and treatment system units, and those emissions that could reasonably be conveyed through a stack, chimney or duct where such emissions first reach the environment.

(15) "Evaporator system" means all equipment associated with increasing the solids content or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators and vacuum systems, as well as associated condensers, hotwells and condensate streams, and any other equipment serving the same function as those previously listed.

(16) "Flow indicator" means any device that indicates gas or liquid flow in an enclosed system.

(17) "High volume, low concentration collection system" or "HVLC collection system" means the gas collection and transport system used to convey gases from the HVLC system to a control device.

(18) "High volume, low concentration system" or "HVLC system" means the collection of equipment including the pulp washing, knotter, screen, decker and oxygen delignification systems, weak liquor storage tanks and any other equipment serving the same function as those previously listed.

(19)"Knotter system" means equipment where knots, oversized material or pieces of uncooked wood are removed from the pulp slurry after the digester system and prior to the pulp washing system. The knotter system equipment includes the knotter, knot drainer tanks, ancillary tanks and any other equipment serving the same function as those previously listed.

(20) "Kraft pulping" means a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

(21) “Lime kiln” means an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

(22) “Low volume, high concentration collection system” or “LVHC collection system” means the gas collection and transport system used to convey gases from the LVHC system to a control device.

(23) “Low volume, high concentration system” or “LVHC system” means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems and any other equipment serving the same function as those previously listed.

(24) “Mechanical pulping” means a pulping process that only uses mechanical and thermo-mechanical processes to reduce wood to a fibrous mass. The mechanical pulping processes include, but are not limited to, stone groundwood, pressurized groundwood, refiner mechanical, thermal refiner mechanical, thermo-mechanical and tandem thermo-mechanical.

(25) “Non-wood pulping” means the production of pulp from fiber sources other than trees. The non-wood fiber sources include, but are not limited to, bagasse, cereal straw, cotton, flax straw, hemp, jute, kenaf and leaf fibers.

(26) “Oven-dried pulp” or “ODP” means a pulp sample at zero percent moisture content by weight.

(a) Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp.

(b) For purposes of complying with mass emission limits in this chapter, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit.

(c) For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

(27) “Oxygen delignification system” means the equipment that uses oxygen to remove lignin from pulp after high-density stock storage and prior to the bleaching system. The oxygen delignification system equipment includes the blow tank, washers, filtrate tanks, any interstage pulp storage tanks and any other equipment serving the same function as those previously listed.

(28) “Primary fuel” means the fuel that provides the principal heat input to the combustion device. To be considered primary, the fuel must be able to sustain operation of the combustion device without the addition of other fuels.

(29) “Process wastewater treatment system” means a collection of equipment, a process or a specific technique that removes or destroys the HAPs in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer or biological treatment unit.

(30) “Pulp washing system” means all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system or paper machine system at unbleached mills. The pulp washing system equipment includes vacuum drum washers, diffusion washers, rotary pressure washers, horizontal belt filters, intermediate stock chests and their associated vacuum pumps, filtrate tanks, foam breakers or tanks, and any other equipment serving the same function as those previously listed. The pulp washing system does not include deckers, screens, knotters, stock chests or pulp storage tanks following the last stage of pulp washing.

(31) “Pulping line” means a group of equipment arranged in series such that the wood chips are digested and the resulting pulp progresses through a sequence of steps that may include knotting, refining, washing, thickening, blending, storing, oxygen delignification and any other equipment serving the same function as those previously listed.

(32) “Pulping process condensates” means any HAP-containing liquid that results from contact of

water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

(33) "Pulping system" means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including treatment with ozone, oxygen or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

(34) "Recovery furnace" means an enclosed combustion device where concentrated spent liquor is burned to recover sodium and sulfur, produce steam and dispose of unwanted dissolved wood components in the liquor.

(35) "Screen system" means equipment in which oversized particles are removed from the pulp slurry prior to the bleaching or papermaking system washed stock storage.

(36) "Secondary fiber pulping" means a pulping process that converts a fibrous material, that has previously undergone a manufacturing process, into pulp stock through the addition of water and mechanical energy. The mill then uses that pulp as the raw material in another manufactured product. These mills may also utilize chemical, heat and mechanical processes to remove ink particles from the fiber stock.

(37) "Semi-chemical pulping" means a pulping process that combines both chemical and mechanical pulping processes. The semi-chemical pulping process produces intermediate yields ranging from 55 to 90%.

(38) "Soda pulping" means a chemical pulping process that uses sodium hydroxide as the active

chemical in the cooking liquor.

(39) "Spent liquor" means process liquid generated from the separation of cooking liquor from pulp by the pulp washing system containing dissolved organic wood materials and residual cooking compounds.

(40) "Steam stripper system" means a column, including associated stripper feed tanks, condensers or heat exchangers, used to remove compounds from wastewater or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks and any other equipment serving the same function as those previously listed.

(41) "Strong liquor storage tanks" means all storage tanks containing liquor that has been concentrated in preparation for combustion or oxidation in the recovery process.

(42) "Sulfite pulping" means a chemical pulping process that uses a mixture of sulfurous acid and bisulfite ion as the cooking liquor.

(43) "Temperature monitoring device" means a piece of equipment used to monitor temperature and having an accuracy of ∀1.0% of the temperature being monitored expressed in degrees Celsius or ∀0.5 degrees Celsius (°C), whichever is greater.

(44) "Thermal oxidizer" means an enclosed device that destroys organic compounds by thermal oxidation.

(45) "Turpentine recovery system" means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

(46) "Weak liquor storage tank" means any storage tank except washer filtrate tanks containing spent liquor recovered from the pulping process and prior to the evaporator system.

NR 464.03 Standards for the pulping system at kraft, soda and semi-chemical processes. (1) The owner or operator of each pulping system using the kraft process subject to the requirements of this chapter shall control the total HAP emissions from the following equipment systems, as specified in subs. (3) and (4):

(a) At existing affected sources, the total HAP emissions from the following equipment systems shall be controlled:

1. Each LVHC system.

2. Each knotter or screen system with a total HAP mass emission rate greater than or equal to the rate specified in subd. 2.a. or b. or the combined rate specified in subd. 2.c.:

a. Each knotter system with emissions of 0.05 kilograms or more of total HAP per megagram of ODP (0.1 pounds per ton).

b. Each screen system with emissions of 0.10 kilograms or more of total HAP per megagram of ODP (0.2 pounds per ton).

c. Each knotter and screen system with emissions of 0.15 kilograms or more of total HAP per megagram of ODP (0.3 pounds per ton).

3. Each pulp washing system.

4. Each decker system that does one of the following:

a. Uses any process water other than fresh water or paper machine white water.

b. Uses any process water with a total HAP concentration greater than 400 parts per million by weight.

5. Each oxygen delignification system.

(b) At new affected sources, the total HAP emissions from the equipment systems listed in par. (a)1., 3. and 5. and all of the following equipment systems shall be controlled:

1. Each knotter system.

2. Each screen system.

3. Each decker system.

4. Each weak liquor storage tank.

(2) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this chapter shall control the total HAP emissions from the following equipment systems, as specified in subs. (3) and (4).

(a) At each existing affected sources, the total HAP emissions from each LVHC system shall be controlled.

(b) At each new affected source, the total HAP emissions from each LVHC system and each pulp washing system shall be controlled.

(3) Equipment systems listed in subs. (1) and (2) shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in sub. (4). The enclosures and closed-vent system shall meet the requirements specified in s. NR 464.08.

(4) The control device used to reduce total HAP emissions from each equipment system listed in subs. (1) and (2) shall do one of the following:

(a) Reduce total HAP emissions by 98% or more by weight.

(b) Reduce the total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10% oxygen on a dry basis.

(c) Reduce total HAP emissions using one of the following:

1. A thermal oxidizer designed and operated at a minimum temperature of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds.

2. A boiler, lime kiln or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.

3. A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 million British thermal units per hour) by introducing the HAP emission stream with the combustion air.

(5) Periods of excess emissions reported under s. NR 464.11 are not a violation of subs. (3) and (4) provided that the time of excess emissions, excluding periods of startup, shutdown or malfunction, divided by the total process operating time in a semi-annual reporting period does not exceed any of the following levels:

(a) One percent for control devices used to reduce the total HAP emissions from the LVHC system.

(b) Four percent for control devices used to reduce the total HAP emissions from the HVLC system.

(c) Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

NR 464.04 Standards for the pulping system at sulfite processes. (1) The owner or operator of each sulfite process subject to the requirements of this chapter shall control the total HAP emissions from the following equipment systems as specified in subs. (2) and (3):

(a) At existing sulfite affected sources, the total HAP emissions from all of the following equipment systems shall be controlled:

1. Each digester system vent.

2. Each evaporator system vent.

3. Each pulp washing system.

(b) At new affected sources, the total HAP emissions from the equipment systems listed in par. (a) and all of the following equipment shall be controlled:

1. Each weak liquor storage tank.

2. Each strong liquor storage tank.

3. Each acid condensate storage tank.

(2) Equipment listed in sub. (1) shall be enclosed and vented into a closed-vent system which routes emissions to a control device that meets the requirements specified in sub. (3). The enclosures and closed-vent system shall meet the requirements specified in s. NR 464.08. Emissions from equipment listed in sub. (1) that do not need to be reduced to meet sub. (3) are not required to be routed to a control device.

(3) The total HAP emissions from both the equipment systems listed in sub. (1) and the vents, wastewater and condensate streams from the control device used to reduce HAP emissions shall be controlled as follows:

(a) Each calcium-based or sodium-based sulfite pulping process shall do one of the following:

1. Emit no more than 0.44 kilograms of total HAP or methanol per megagram (0.89 pounds per ton) of ODP.

2. Remove 92% or more by weight of the total HAP or methanol.

(b) Each magnesium-based or ammonium-based sulfite pulping process shall do one of the following:

1. Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP.

2. Remove 87% or more by weight of the total HAP or methanol.

NR 464.05 Standards for the bleaching system. (1) Each bleaching system that does not use any chlorine or chlorinated compounds for bleaching is exempt from the requirements of this section. Owners or operators of the following bleaching systems shall meet all the provisions of this section:

(a) Bleaching systems that use chlorine.

(b) Bleaching systems bleaching pulp from kraft, sulfite or soda pulping processes that use any chlorinated compounds.

(c) Bleaching systems bleaching pulp from mechanical pulping processes using wood, or from any process using secondary or non-wood fibers, that use chlorine dioxide.

(2) The equipment at each bleaching stage of the bleaching systems listed in sub. (1) where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system which routes emissions to a control device that meets the requirements specified in sub. (3). The enclosures and closed-vent system shall meet the requirements specified in s. NR 464.08. If process modifications are used to achieve compliance with the emission limits specified in sub. (3)(b) or (c), enclosures and closed-vent systems are not required.

(3) The control device used to reduce chlorinated HAP emissions, not including chloroform, from the equipment specified in sub. (2) shall do one of the following:

(a) Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99% or more by weight.

(b) Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP.

(c) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (0.002 pounds per ton) of ODP.

(4) The owner or operator of each bleaching system subject to sub. (1)(b) shall comply with par. (a) or (b) to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under s. NR 464.01(1)(e)1. to 3. shall comply with par. (a). The owner or operator shall:

(a) Comply with the following applicable effluent limitation guidelines and standards specified in 40 CFR part 430:

1. Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 to 430.17.

2. Paper-grade kraft and soda bleaching systems and lines, 40 CFR 430.24(a)(1) and (e), and 40 CFR 430.26(a) and (c).

3. Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 to 430.47.

4. Paper-grade sulfite bleaching systems and lines, 40 CFR 430.54(a) and (c), and 40 CFR 430.56(a) and (c).

(b) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.

NR 464.06 Standards for kraft pulping process condensates. (1) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this chapter.

(2) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in subs. (3), (4) and (5):

(a) Each digester system.

(b) Each turpentine recovery system.

(c) Each evaporator system condensate from both of the following:

1. The vapors from each stage where weak liquor is introduced (feed stages).

2. Each evaporater vacuum system for each stage where weak liquor is introduced (feed stages).

(d) Each HVLC collection system.

(e) Each LVHC collection system.

(3) One of the following combinations of HAP-containing pulping process condensates generated, produced or associated with the equipment systems listed in sub. (2) shall be subject to the requirements of subs. (4) and (5):

(a) All pulping process condensates from the equipment systems specified in sub. (2)(a) to (e).

(b) The combined pulping process condensates from the equipment systems specified in sub. (2)(d) and (e), plus pulping process condensate streams that in total contain at least 65% of the total HAP mass from the pulping process condensates from equipment systems listed in sub. (2)(a) to (c).

(c) The pulping process condensates from equipment systems listed in sub. (2)(a) to (e) that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(4) The pulping process condensates from the equipment systems listed in sub. (2) shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in pars. (a) and (b):

(a) Each closed collection system shall meet the individual drain system requirements specified in 40 CFR 63.960, 63.961 and 63.962 of subpart RR, except closed-vent systems and control devices shall be designed and operated in accordance with 40 CFR 63.443(d) and 63.450, instead of in accordance with 40 CFR 63.962 (a)(3)(ii), (b)(3)(ii)(A) and (5)(iii).

(b) If a condensate tank is used in the closed collection system, the tank shall meet both of the following requirements:

1. The fixed roof and all openings, such as access hatches, sampling ports and gauge wells, shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in s. NR 464.08 and routed to a control device that meets the requirements in s. NR 464.03(4).

2. Each opening shall be maintained in a closed, sealed position, e.g., covered by a lid that is gasketed and latched, at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance or repair.

(5) Each pulping process condensate from the equipment systems listed in sub. (2) shall be treated according to one of the following options:

(a) Recycle the pulping process condensate to an equipment system specified in s. NR 464.03(1) meeting the requirements specified in s. NR 464.03(3) and (4).

(b) Discharge the pulping process condensate below the liquid surface of a biological treatment system and treat the pulping process condensates to meet the requirements specified in par. (c), (d) or (e), and measuring total HAP as specified in 40 CFR 63.457(g).

(c) Treat the pulping process condensates to reduce or destroy the total HAPs by 92% or more by weight.

(d) At mills that do not perform bleaching, treat the pulping process condensates to remove 3.3 kilograms or more of total HAP per megagram (6.6 pounds per ton) of ODP, or achieve a total HAP concentration of 210 parts per million or less by weight at the outlet of the control device.

(e) At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device.

(6) Each HAP removed from a pulping process condensate stream during treatment and handling under sub. (4) or (5), except for those treated according to sub. (5)(b), shall be controlled as specified in s. NR 464.03(3) and (4).

(7) For each control device, such as a steam stripper system or other equipment serving the same function, used to treat pulping process condendsates to comply with the requirements specified in sub. (5)(c) to (e), periods of excess emissions reported under s. NR 464.05 are not a violation subs. (4) and (5)(c) to (e) and (6) provided that the time of excess emissions, including periods of startup, shutdown or malfunction, divided by the total process operating time in a semi-annual reporting period does not exceed 10%. The 10% excess emissions allowance does not apply to treatment of pulping process condensates according to sub. (5)(b) as done, for example, with the biological wastewater treatment system used to treat multiple wastewater streams to comply with the clean water act.

(8) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or

non-bleached ODP used to comply with sub. (9) to determine if they meet the applicable requirements of this section.

(9) For the purposes of meeting the requirements in sub. (3)(b) or (c) or (5)(d) or (e) at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached mills specified in sub. (3)(b) or (c) or (5)(d) or (e) by the ratio of annual megagrams of bleached and unbleached ODP.

NR 464.07 Clean condensate alternative. As an alternative to the requirements specified in s. NR 464.03(1)(a)2. to 5. for the control of HAP emissions from pulping systems using the kraft process, an owner or operator shall demonstrate to the satisfaction of the department, by meeting all the requirements of this section, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with s. NR 464.03(1)(a)2. to 5.

(1) For the purposes of this section only the following additional definitions apply:

(a) "Clean condensate alternative affected source" means the total of all HAP emission points in the pulping, bleaching, causticizing and papermaking systems, exclusive of HAP emissions attributable to additives to paper machines and HAP emission points in the LVHC system.

(b) "Causticizing system" means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and

any other equipment serving the same function as those previously listed.

(c) "Papermaking system" means all equipment used to convert pulp into paper, paperboard or market pulp, including the stock storage and preparation systems, the paper or paperboard machines, and the paper machine white water system, broke recovery systems, and the systems involved in calendering, drying, on-machine coating, slitting, winding and cutting.

(2) Each owner or operator shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by treating and reducing HAP concentrations in the pulping process water used within the clean condensate alternative affected source.

(3) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in 40 CFR 63.457, incorporated by reference in s. NR 484.03(6).

(4) Each owner or operator shall determine the baseline HAP emissions for each equipment system and the total of all equipment systems in the clean condensate alternative affected source based on the following:

(a) Process and air pollution control equipment installed and operating on December 17, 1993.

(b) Compliance with the all following requirements that affect the level of HAP emissions from the clean condensate alternative affected source:

1. The pulping process condensates requirements in s. NR 464.06.

2. The applicable effluent limitation guidelines and standards in 40 CFR part 430, subparts A, B, D and E.

3. All other applicable requirements of local, state or federal agencies or statutes.

(5) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in sub. (4) for each equipment system and the total of all equipment systems in the clean condensate alternative affected source:

(a) The HAP emission reduction occurring by complying with the requirements of s. NR 464.03(1)(a)2. to 5.

(b) The HAP emissions reduction occurring by complying with the clean condensate alternative technology.

(6) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems, instead of total of all equipment systems, within the clean condensate alternative affected source to determine emissions and reductions to demonstrate achievement of equal or greater than the reductions that would have been achieved by compliance with of s. NR 464.03(1)(a)2. to 5.

(7) The initial and updates to the control strategy report specified in s. NR 464.11 shall include to the extent possible the following information:

(a) A detailed description of all of the following:

1. The equipment systems and emission points that comprise the clean condensate alternative affected source.

2. The air pollution control technologies that would be used to meet the requirements of s. NR 464.03(1)(a)2. to 5.

3. The clean condensate alternative technology to be used.

(b) Estimates and basis for the estimates of total HAP emissions and emissions reductions to fulfill the requirements subs. (4), (5) and (6).

(8) Each owner or operator shall report to the department by the applicable compliance date specified in s. NR 464.01(1)(d), (e) or (f) the rationale, calculations, test procedures and data documentation used to demonstrate compliance with all the requirements of this section.

NR 464.08 Standards for enclosures and closed-vent systems. (1) Each enclosure and closed-vent system specified in ss. NR 464.03(3), 464.04(2) and 464.05(2) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in subs. (2) to (4).

(2) Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in 40 CFR 63.457(e), incorporated by reference in s. NR 484.03(6). Each enclosure or hood opening closed during the initial performance test specified in 40 CFR 63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance or repairs.

(3) Each component of the closed-vent system used to comply with ss. NR 464.03(3), 464.04(2) and 464.05(2) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in 40 CFR 63.457(d), incorporated by reference in s. NR 484.03(6).

(4) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in ss. NR 464.03 to 464.05 shall comply with either of the following requirements:

(a) On each bypass line, the owner or operator shall install, calibrate, maintain and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in

the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line.

(b) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

NR 464.09 Monitoring requirements. (1) Each owner or operator subject to the standards specified in s. NR 464.03(3) and (4), 464.04(2) and (3), 464.05(2) and (3), 464.06(3), (4) and (5), 464.07(2) or 464.08(4), shall install, calibrate, certify, operate and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS), as defined in s. NR 460.02(12), as specified in subs. (2) to (13), except as allowed in sub. (13). The CMS shall include a continuous recorder.

(2) A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of s. NR 464.03(4)(a) to (c). Owners and operators complying with the HAP concentration requirements in s. NR 464.03(4)(b) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol concentration, as an alternative to monitoring thermal oxidizer operating temperature.

(3) A CMS shall be operated to measure all the following parameters for each gas scrubber used to comply with the bleaching system requirements of s. NR 464.05(3) or the sulfite pulping system requirements of s. NR 464.04(3):

(a) The pH or the oxidation/reduction potential of the gas scrubber effluent.

(b) The gas scrubber vent gas inlet flow rate.

(c) The gas scrubber liquid influent flow rate.

(4) As an option to the requirements specified in sub. (3), a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in s. NR 464.05(3)(b).

(5) The owner or operator of a bleaching system complying with 40 CFR 430.24 shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in s. NR 464.01(1)(e).

(6) A CMS shall be operated to measure the gas scrubber parameters specified in sub. (3)(a) to (c) or those site specific parameters determined according to the procedures specified in sub. (14) to comply with the sulfite pulping system requirements specified in s. NR 464.04(3).

(7) A CMS shall be operated to measure all the following parameters for each steam stripper used to comply with the treatment requirements in s. NR 464.06(5)(c), (d) or (e):

(a) The process wastewater feed rate.

(b) The steam feed rate.

(c) The process wastewater column feed temperature.

(8) As an option to the requirements specified in sub. (7), a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in s. NR 464.06(5)(d) or (e).

(9) A CMS shall be operated to measure the appropriate parameters determined according to the procedures specified in sub. (14) to comply with the condensate applicability requirements specified in s. NR 464.06(3).

(10) Each owner or operator using an open biological treatment system to comply with s. NR 464.06(5)(b) shall perform the monitoring procedures specified in either pars. (a) and (b) or par. (c) and shall conduct a performance test each quarter using the procedures specified in par. (d):

(a) On a daily basis, monitor all the following parameters for each biological treatment unit:

1. Composite daily sample of outlet soluble BOD_5 concentration to monitor for maximum daily and maximum monthly average.

2. Mixed liquor volatile suspended solids.

3. Horsepower of each aerator unit.

4. Inlet liquid flow.

5. Liquid temperature.

(b) If the Inlet and Outlet Concentration Measurements procedure (Procedure 3) in Appendix C of 40 CFR part 63, incorporated by reference in s. NR 484.04(25g), is used to determine the fraction of HAP compounds degraded in the biological treatment system as specified in 40 CFR 63.457(l), carry out the sampling and archival requirements specified in subds. 1. and 2.:

1. Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly performance tests specified in par. (d) and the compliance tests specified in sub. (16).

2. Store the samples as specified in 40 CFR 63.457(n) until after the results of the soluble BOD_5 test required in par. (a)1. are obtained. The storage requirement is needed since the soluble BOD_5 test requires 5 days or more to obtain results. If the results of the soluble BOD_5 test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the mass removal or percent reduction determinations.

(c) As an alternative to the monitoring requirements of pars. (a) and (b), conduct daily monitoring of the site-specific parameters established according to the procedures specified in sub. (14).

(d) Conduct a performance test as specified in 40 CFR part 63.457(l) within 45 days after the beginning of each quarter and meet the applicable emission limit in s. NR 464.06(5)(b).

1. The performance test conducted in the first quarter, annually, shall be performed for total HAP as specified in 40 CFR 63.457(g) and meet the percent reduction or mass removal emission limit specified in s. NR 464.06(5)(b).

2. The remaining quarterly performance tests shall be performed as specified in subd. 1. except owners or operators may use the applicable methanol procedure in 40 CFR 63.457(l)(1) or (2) and the value of r determined during the first quarter test instead of measuring the additional HAP to determine a new value of r.

(11) Each enclosure and closed-vent system used to comply with s. NR 464.08(1) shall comply with the requirements specified in pars. (a) to (f):

(a) For each enclosure opening, a visual inspection of the closure mechanism specified in s. NR 464.08(2) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(b) Each closed-vent system required by s. NR 464.08(1) shall be visually inspected every 30 days and at other times as requested by the department. The visual inspection shall include inspection of ductwork, piping, enclosures and connections to covers for visible evidence of defects.

(c) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in s. NR 464.08(3), measured initially and annually by the procedures in 40 CFR 63.457(d), incorporated by reference in s. NR 484.03(6).

(d) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in 40 CFR 63.457(e), incorporated by reference in s. NR 484.03(6).

(e) The valve or closure mechanism specified in s. NR 464.08(4)(b) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(f) If an inspection required by pars. (a) to (e) identifies visible defects in ductwork, piping, enclosures or connections to covers required by s. NR 464.08, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:

1. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

2. The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emission likely to result from delay. Repair of the equipment shall be completed by the end of the next process shutdown.

(12) Each pulping process condensate closed collection system used to comply with s. NR 464.06(4) shall comply with the requirements of pars. (a) to (c):

(a) Each pulping process condensate closed collection system shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in 40 CFR 63.964 of subpart RR, except:

1. Owners and operators shall comply with the recordkeeping requirements of s. NR 464.10 instead of the requirements of 40 CFR 63.964(a)(1)(vi) and (b)(3).

2. Owners and operators shall comply with inspection and monitoring requirements specified in subs. (1) and (11) instead of 40 CFR 63.964(a)(2) of subpart RR.

(b) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in s. NR 464.06(4)(b)1., measured initially and annually by the procedures in 40 CFR 63.457(d), incorporated by reference in s. NR 484.03(6).

(c) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 ppm or greater above background is measured, then corrective actions specified in 40 CFR 63.964(b) of subpart RR shall be taken.

(13) Each owner or operator using a control device, technique or an alternative parameter other than those specified in subs. (2) to (12) shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the administrator's satisfaction, continuous compliance with the applicable control requirements.

Note: Under 40 CFR 458(b)(2), implementation of sub. (13) requires approval by EPA.

(14) To establish or reestablish the value for each operating parameter required to be monitored under subs. (2) to (10), (12) and (13) or to establish appropriate parameters for subs. (6), (9), (10)(c) and (13), each owner or operator shall use the following procedures:

(a) During the initial performance test required in 40 CFR 63.457(a), incorporated by reference in s. NR 484.03(6), or any subsequent performance test, continuously record the operating parameter.

(b) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's recommendations.

(c) The owner or operator shall provide for the department's approval the rationale for selecting the monitoring parameters necessary to comply with subs. (6) and (9) and shall provide for the administrator's approval the rationale for selecting the monitoring parameters necessary to comply with sub. (13).

(d) Provide for the department's approval the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency and averaging time demonstrate continuous compliance with the applicable emission standard.

(15) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum, as appropriate, operating parameter value or procedure required to be monitored under subs. (1) to (14) and established under this chapter. Except as provided in sub. (16), s. NR 464.03(5) or 464.06(7), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this chapter or failure to perform procedures required by this chapter shall constitute a violation of the applicable emission standard of this chapter and be reported as a period of excess emissions.

(16) The procedures of this paragraph apply to each owner or operator of an open biological treatment system complying with sub. (10) whenever a monitoring parameter excursion occurs, and the owner or operator chooses to conduct a performance test to demonstrate compliance with the applicable emission limit. A monitoring parameter excursion occurs whenever the monitoring parameters specified in sub. (10)(a)1. to 3. or any of the monitoring parameters specified in sub. (10)(c) are below minimum

operating parameter values or above maximum operating parameter values established in sub. (14).

(a) As soon as practical after the beginning of the monitoring parameter excursion, the following requirements shall be met:

1. Before the steps in subd. 2. or 3. are performed, all sampling and measurements necessary to meet the requirements in par. (b) shall be conducted.

2. Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period.

3. Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.

(b) A parameter excursion is not a violation of the applicable emission standard if the results of the performance test conducted using the procedures in this paragraph demonstrate compliance with the applicable emission limit in s. NR 464.06(5)(b).

1. Conduct a performance test as specified in 40 CFR 63.457 using the monitoring data specified in sub. (10)(a) to (c) that coincides with the time of the parameter excursion. No maintenance or changes shall be made to the open biological treatment system after the beginning of a parameter excursion that would influence the results of the performance test.

2. If the results of the performance test specified in subd. 1. demonstrate compliance with the applicable emission limit in s. NR 464.06(5)(b), then the parameter excursion is not a violation of the applicable emission limit.

3. If the results of the performance test specified in subd. 1. do not demonstrate compliance with the applicable emission limit in s. NR 464.06(5)(b) because the total HAP mass entering the open biological treatment system is below the level needed to demonstrate compliance with the applicable emission limit in

s. NR 464.06(5)(b), then the owner or operator shall perform the following comparisons:

a. If the value of f_{bio} (MeOH) determined during the performance test specified in subd. 1. is within the range of values established during the initial and subsequent performance tests approved by the department, then the parameter excursion is not a violation of the applicable standard.

b. If the value of f_{bio} (MeOH) determined during the performance test specified in subd. 1. is not within the range of values established during the initial and subsequent performance tests approved by the department, then the parameter excursion is a violation of the applicable standard.

4. The results of the performance test specified in subd. 1. shall be recorded as specified in s. NR 464.10(6).

(c) If an owner or operator determines that performing the required procedures under par. (b) for a nonthoroughly mixed open biological system would expose a worker to dangerous, hazardous or otherwise unsafe conditions, all of the following procedures shall be performed:

1. Calculate the mass removal or percent reduction value using the procedures specified in 40 CFR 63.457(l) except the value for f_{bio} (MeOH) shall be determined using the procedures in Appendix E of 40 CFR part 63, incorporated by reference in s. NR 484.04(25r).

2. Repeat the procedures in subd. 1. for every day until the unsafe conditions have passed.

3. A parameter excursion is a violation of the standard if the percent reduction or mass removal determined in subd. 1. is less than the percent reduction or mass removal standards specified in s. NR 464.06(5)(b), as appropriate, unless the value of f_{bio} (MeOH) determined using the procedures in 40 CFR part 63 Appendix E, as specified in subd. 1., is within the range of f_{bio} (MeOH) values established during the initial and subsequent performance tests previously approved by the department.

4. The determination that there is a condition that exposes a worker to dangerous, hazardous or

otherwise unsafe conditions shall be documented according to requirements in s. NR 464.10(5) and reporting in s. NR 464.11(6).

5. The requirements of pars. (a) and (b) shall be performed and met as soon as practical but no later than 24 hours after the conditions have passed that exposed a worker to dangerous, hazardous or otherwise unsafe conditions.

NR 464.10 Recordkeeping requirements. (1) The owner or operator of each affected source subject to the requirements of this chapter shall comply with the applicable recordkeeping requirements of ch. NR 460 and the requirements specified in subs. (2) to (6) for the monitoring parameters specified in s. NR 464.09.

(2) For each applicable enclosure opening, closed-vent system and closed collection system, the owner or operator shall prepare and maintain a site-specific inspection plan, including a drawing or schematic of the components of applicable affected equipment, and shall record all of the following information for each inspection:

(a) Date of inspection.

(b) The equipment type and identification.

(c) Results of negative pressure tests for enclosures.

(d) Results of leak detection tests.

(e) The nature of the defect or leak and the method of detection, that is, visual inspection or instrument detection.

(f) The date the defect or leak was detected and the date of each attempt to repair the defect or leak.

(g) Repair methods applied in each attempt to repair the defect or leak.

(h) The reason for the delay if the defect or leak is not repaired within 15 days after discovery.

(i) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days.

(j) The date of successful repair of the defect or leak.

(k) The position and duration of opening of bypass line valves and the condition of any valve seals.

(l) The duration of the use of bypass valves on computer controlled valves.

(3) The owner or operator of a bleaching system complying with s. NR 464.01(1)(e)2. shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in s. NR 464.01(1)(e)1. are met.

(4) The owner or operator shall record the CMS parameters specified in s. NR 464.09 and meet the requirements specified in sub. (1) for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this chapter due to a process change or modification.

(5) The owner or operator of an open nonthoroughly mixed biological treatment system complying with s. NR 464.09(16)(c) instead of s. NR 464.09(16)(b) shall prepare a written record identifying the specific conditions that would expose a worker to dangerous, hazardous or otherwise unsafe conditions. The record shall include a written explanation of the specific reason or reasons why a worker would not be able to perform the sampling and test procedures specified in 40 CFR 63.457(l).

(6) The owner or operator of an open biological treatment system complying with s. NR 464.09(16) shall prepare a written record specifying the results of the performance test specified in s. NR 464.09(16)(b).

NR 464.11 Reporting requirements. (1) Each owner or operator of a source subject to this chapter shall comply with the reporting requirements of ch. NR 460 as specified in Appendix S of ch. NR 460 and all the following requirements in this section. The initial notification report specified in s. NR 460.08(2)(b) shall have been submitted by April 15, 1999 for existing sources.

(2) Each owner or operator of a kraft pulping system specified in s. NR 464.01(1)(d)1. or a bleaching system specified in s. NR 464.01(1)(e)1. to 3. shall submit, with the initial notification report specified in s. NR 460.08(2)(b) and sub. (1) and update every 2 years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in pars. (a) to (c) in addition to the information required in s. NR 460.08(2)(b):

(a) A description of the emission controls or process modifications selected for compliance with the control requirements in this standard.

(b) A compliance schedule, including the dates by which each step toward compliance will be reached for each emission point or sets of emission points. At a minimum, the list of dates shall include all of the following:

1. The date by which the major study or studies for determining the compliance strategy will be completed.

2. The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes.

3. The date by which on-site construction, installation of emission control equipment or a process change is to be initiated.

4. The date by which on-site construction, installation of emissions control equipment or a process change is to be completed.

5. The date by which final compliance is to be achieved.

6. For compliance with s. NR 464.01(1)(e)1. to 3., the tentative dates by which compliance is to be achieved with effluent limitation guidelines and standards for intermediate pollutant load effluent reductions, and, as available, all the dates for the best available technology's milestones reported in the national pollutant discharge elimination system authorized under section 402 of the clean water act (33 USC 1342) and for the best professional milestones in the voluntary advanced technology incentives program under 40 CFR 430.24(b)(2).

7. The date by which the final compliance tests shall be performed.

(c) Until compliance is achieved, revisions or updates shall be made to the control strategy report required by this subsection indicating the progress made towards completing the installation of the emission controls or process modifications during the 2-year period.

(3) The owner or operator of each bleaching system complying with s. NR 464.01(1)(e)2. shall certify in the report specified under s. NR 460.09(5)(c) that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in s. NR 464.01(1)(e)2. until the requirements of s. NR 464.01(1)(e)1. are met.

(4) The owner or operator shall meet the requirements specified in sub. (1) upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards of this chapter due to a process change or modification.

(5) If the owner or operator uses the results of the performance test required in s. NR 464.09(16)(b) to revise the approved values or ranges of the monitoring parameters specified in s. NR

464.09 (10)(a) to (c), the owner or operator shall submit an initial notification of the subsequent performance test to the department as soon as practicable, but no later than 15 days, before the performance test required in s. NR 464.09(16)(b) is scheduled to be conducted. The owner or operator shall notify the department as soon as practicable, but no later than 24 hours, before the performance test is scheduled to be conducted to confirm the exact date and time of the performance test.

(6) To comply with the open biological treatment system monitoring provisions of s. NR 464.09(16)(c), the owner or operator shall notify the department as soon as practicable of the onset of the dangerous, hazardous or otherwise unsafe conditions that did not allow a compliance determination to be conducted using the sampling and test procedures in 40 CFR 63.457(l). The notification shall occur no later than 24 hours after the onset of the dangerous, hazardous or otherwise unsafe conditions and shall include the specific reason or reasons that the sampling and test procedures in 40 CFR 63.457(l) could not be performed.

SECTION 29. NR 484.03(intro.) is amended to read:

NR 484.03 Code of federal regulations. (intro.) The federal regulations in effect on ~~July 1, 1998~~ the effective date of this section … [revisor inserts date] listed in the first column of Table 1 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Table 1.

SECTION 30. NR 484.03(6) in table 1 is created to read:

CFR Reference	Title	Incorporated by Reference For

NR 484.03 (6) 40 CFR 63.457	Test methods and procedures	NR 464

SECTION 31. NR 484.04(intro.) and (9) in table 2 are amended to read:

NR 484.04 Code of federal regulations appendices. (intro.) The appendices to federal regulations in effect on ~~July 1, 1998~~ the effective date of this section … [revisor inserts date] listed in the first column of Table 2 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 or code of federal regulations appendix method listed in the third column of Table 2. Since some of these materials are incorporated by reference for another appendix of the code of federal regulations and the other appendix is also incorporated by reference in this section, the materials listed in this section which are incorporated by reference for the other appendix are hereby also incorporated by reference and made a part of this chapter.

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (9) 40 CFR part 51 Appendix M	Recommended Test Methods for State Implementation Plans	NR 439 NR 460.06(4)(b)(intro.) NR 465.09(4) (b)1. and 2. NR 466.09(5)

SECTION 32. NR 484.04(25g) and (25r) in table 2 are created to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (25g) 40 CFR part 63 Appendix C	Determination of the Fraction Biodegraded (F_{bio}) in a Biological Treatment Unit	40 CFR 63.457(l) NR 464.09(10)(b)

(25r) 40 CFR part 63 Appendix E	Monitoring Procedure for Nonthoroughly Mixed Open Biological Treatment Systems at Kraft Pulp Mills Under Unsafe Sampling Conditions	NR 464.09(16)(c)

SECTION 33. NR 484.10(intro.), (3), (5), (14) to (17), (20), (22) , (25) and (26) in table 5 are amended to read:

NR 484.10 American society for testing and materials. (intro.) The American society for testing and materials (ASTM) standards listed in the first column of Table 5 are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 in the third column of Table 5. Some of the standards are also incorporated for Appendix A or B of 40 CFR part 60, Appendix B of 40 CFR part 61 or Appendix A, D, E, F or G of 40 CFR part 75 as in effect on ~~July 1, 1998~~ the effective date of this section … [revisor inserts date]. Since these Appendices are incorporated by reference in s. NR 484.04, standards listed in this section which are incorporated by reference for the Appendices are hereby also incorporated by reference and made a part of this chapter and chs. NR 400 to 439 and 445 to 499.

Standard Number		Standard Title	Incorporated by Reference For
(3)	ASTM ~~D129-95~~ D129-00	Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices A and D NR 439.08(2)(b)
(5)	ASTM D287-92 ~~(1995)~~ (2000)	Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)	40 CFR part 75 Appendix D
(14)	ASTM ~~D1037-96a~~ D1037-99	Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials	ANSI/AHA A135.5-1988
(15)	ASTM D1072-90 ~~(1994)~~ (1999)	Standard Test Method for Total Sulfur in Fuel Gases	40 CFR part 75 Appendix D

(16)	ASTM ~~D1193-91~~ D1193-99	Standard Specification for Reagent Water	40 CFR part 60 Appendix A: Method 5F, par. 3.1 Method 5H, par. 3.1.3 Method 6, par. 3.1.1 Method 7, par. 3.2.2 Method 7A, par. 3.2 Method 7C, par. 3.1.1 Method 7D, par. 3.1.1 Method 8, par. 3.1.3 Method 11, par. 6.1.3 Method 12, par. 4.1.3 Method 13A, par. 6.1.2 Method 14A, par. 7.1 Method 25D, par. 3.2.2.4 Method 26, par. 3.1.1 Method 26A, par. 3.1.1 Method 29, pars. 4.2.2, 4.4.2 and 4.5.6 40 CFR part 61 Appendix B, Method 101, par. 6.1.1
(17)	ASTM D1217-93 (1998)	Standard Test Method for Density and Relative Density (Specific Gravity) of Liquids by Bingham Pycnometer	40 CFR part 75 Appendix D
(20)	ASTM ~~D1298-85 (1990)~~ D1298-99	Standard Practice for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method	40 CFR part 75 Appendix D
(22)	ASTM ~~D1475-96~~ D1475-98	Standard Test Method for Density of Liquid Coatings, Inks, and Related Products	40 CFR part 60 Appendix A: Method 24, par. 2.1 Method 24A, par. 2.2 Method 24A, par. 2.3
(25)	ASTM ~~D1552-95~~ D1552-00	Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)	40 CFR part 75 Appendices A and D NR 439.08(2)(b)
(26)	ASTM D1826-94 (1998)	Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices E and F NR 400.02(79)

SECTION 34. NR 484.10(29) is renumbered 484.10(55g) and amended to read:

Standard Number	Standard Title	Incorporated by Reference For

NR 484.10 (55g) ASTM ~~D1989-96~~ D5865-00	Standard Test Method for Gross Calorific Value of Coal and Coke ~~by Microprocessor Controlled Isoperibol Calorimeters~~	NR 439.08(1)(d)

SECTION 35. NR 484.10(30), (31), (33), (36), (41), (42), (43), (47), (48), (51), (52), (53), (55) and (56) in table 5 are amended to read:

Standard Number		Standard Title	Incorporated by Reference For
(30)	ASTM ~~D2013-86 (1994)~~ D2013-00ae1	Standard Method of Preparing Coal Samples for Analysis	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix F NR 439.08(1)(b)
(31)	ASTM D2015-96	Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendices A, D, E and F NR 400.02(79) ~~NR 439.08(1)(d)~~
(33)	ASTM ~~D2234-98~~ D2234-00	Standard Practice for Collection of a Gross Sample of Coal	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix F NR 439.08(1)(a) NR 439.085(2)(a)1. NR 439.085(2)(b)1. NR 439.085(2)(c)1.
(36)	ASTM ~~D2486-96~~ D2486-00	Standard Test Method for Scrub Resistance of Wall Paints	ANSI/AHA A135.5-1988
(41)	ASTM D2986-95a (1999)	Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test	40 CFR part 60 Appendix A: Method 5, par. 3.1.1 Method 12, par. 4.1.1 Method 13A, par. 6.1.1.2 Method 17, par. 3.1.1
(42)	ASTM ~~D3173-87 (1996)~~ D3173-00	Standard Test Method for Moisture in the Analysis Sample of Coal and Coke	40 CFR part 60 Appendix A, Method 19 NR 439.08(1)(f)
(43)	ASTM ~~D3174-93~~ D3174-00	Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal	40 CFR part 75 Appendix G NR 439.08(1)(e)

(47)	ASTM D3238-95 (2000)	Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method	40 CFR part 75 Appendix G
(48)	ASTM ~~D3792-98~~ D3792-99	Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph	40 CFR part 60 Appendix A, Method 24, par. 2.3
(51)	ASTM D4057-95 (2000)	Standard Practice for Manual Sampling of Petroleum and Petroleum Products	40 CFR part 75 Appendix D NR 439.08(2)(a)
(52)	ASTM D4177-95 (2000)	Standard Practice for Automatic Sampling of Petroleum and Petroleum Products	40 CFR part 75 Appendix D NR 439.08(2)(a)
(53)	ASTM ~~D4239-94~~ D4239-00	Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods	40 CFR part 60 Appendix A, Method 19 40 CFR part 75 Appendix A NR 439.08(1)(c)
(55)	ASTM ~~D4809-95~~ D4809-00	Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (~~Intermediate~~ Precision Method)	40 CFR part 75 Appendices D, E and F NR 460.10(2)(f)
(56)	ASTM ~~E84-97a~~ E84-01	Standard Test Method for Surface Burning Characteristics of Building Materials	ANSI/AHA A135.5-1988

SECTION 36. NR 484.11(intro.) is amended to read:

NR 484.11 Other private organizations. (intro.) The following materials from other private organizations listed in the first column of Tables 6A to 6J are incorporated by reference for the corresponding sections of chs. NR 400 to 439 and 445 to 499 listed in the third column of Tables 6A to 6J. A test method is also incorporated for 40 CFR 63.457 as in effect on the effective date of this section … [revisor inserts date]. Since that CFR section is incorporated by reference in s. NR 484.03(6), the test method listed in this section which is incorporated by reference for it is hereby also incorporated by reference and made part of this chapter and chs. NR 400 to 439 and 445 to 499.

SECTION 37. NR 484.11(9) is created to read:

NR 484.11(9) The following is a document from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI):

Note: Copies may be obtained for personal use from:

National Council of the Paper Industry for Air and Stream Improvement, Inc.

PO Box 13318

Research Triangle Park NC 27709-3318

http://www.ncasi.org

(919) 558-1987

Table 6I

NCASI Document Reference

Document Number	Title	Incorporated by Reference For
NCASI Method DI/MEOH-94.02	Methanol in Process Liquids by GC/FID, August 1998, Methods Manual	40 CFR 63.457 (c)(3)(ii)

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The foregoing rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

The rule shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By_____
Darrell Bazzell, Secretary

(SEAL)