

Chapter NR 284

PULP AND PAPER MANUFACTURING

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Note: Chapters NR 284 and 285 as they existed on October 31, 1986 were repealed and a new chapter NR 284 was created effective November 1, 1986.

NR 284.01 Purpose. The purpose of this chapter is to establish effluent limitations, standards of performance, and pretreatment standards for discharges of process wastes from the pulp and paper industry category of point sources and subcategories thereof.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.02 Applicability. The effluent limitations, standards of performance, pretreatment standards, and other provisions in this chapter are applicable to pollutants or pollutant properties in discharges of process waste resulting from activities in any or a combination of any of the following subcategories of the pulp and paper manufacturing point source category as defined in s. NR 284.03:

c1d Integrated production of pulp and paper or paperboard by:

- cad BCT bleached kraft subcategory;
- cbd Fine bleached kraft subcategory;
- ccd Greenwood-CMN papers subcategory;
- cdd Greenwood-chemi-mechanical subcategory;
- ced Greenwood-fine papers subcategory;
- efd Greenwood-thermo-mechanical subcategory;
- egd Papergrade sulfite cblow pit washd subcategory;
- chd Papergrade sulfite cdum washd subcategory;
- cid Semi-chemical subcategory;
- cjd Soda subcategory;
- ckd Unbleached kraft subcategory;
- cLd Unbleached kraft and semi-chemical subcategory; and
- cmd Unbleached kraft-neutral sulfite semi-chemical ccross-recoveryd subcategory.

c2d Nonintegrated production of paper or paperboard by:

- cad Nonintegrated-filter and nonwoven papers subcategory;
- cbd Nonintegrated-fine papers subcategory;
- ccd Nonintegrated-light weight papers subcategory;
- cdd Nonintegrated-paperboard subcategory; and
- ced Nonintegrated-tissue papers subcategory.

c3d Production of paper or paperboard from wastepaper by:

- cad Builders[paper and roofing felt subcategory;
- cbd Deink subcategory;
- ccd Paperboard from wastepaper subcategory;
- cdd Tissue from wastepaper subcategory; and
- ced Wastepaper-molded products subcategory.

c4d Production of pulp by:

- cad Dissolving kraft subcategory;

- cbd Dissolving sulfite pulp subcategory; and
- ccd Market bleached kraft subcategory.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.03 Definitions. The following definitions are applicable to terms used in this chapter. Definitions of other terms and meanings of abbreviations are set forth in chs. NR 205 and 211, and the Development Document for Effluent Limitations Guidelines and Standards for the Pulp, Paper and Paperboard and the Builders[Paper and Board Mills Point Source Categories, EPA 440{1-82{025, October, 1982.

Note: Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state[s office, and the office of the legislative reference bureau, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20460.

c1d XAcid sulfite cooking liquorY means sulfite cooking liquor having a pH less than 3.0.

c2d XBCT bleached kraft subcategoryY includes those mills at which bleached kraft pulp is produced in a full cook process employing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor.

Note: Principal products include paperboard cBd, coarse papers cCd, tissue papers cTd and market pulp.

c3d XBisulfite cooking liquorY means sulfite cooking liquor having a pH between 3.0 and 6.0.

c4d XBuilders[paper and roofing felt subcategoryY includes those mills at which heavy papers used in the construction industry are produced from wastepaper, wood flour and sawdust, wood chips, and rags. Neither bleaching nor chemical pulping processes are employed on-site.

Note: Principal products include saturating, deadening, and flooring papers, and roofing felt.

c5d XCorrugating medium furnish subdivisionY includes those mills in the paperboard from wastepaper subcategory where only recycled corrugating medium is used in the production of paperboard.

c6d XCotton fiber furnish subdivisionY includes those mills in the nonintegrated-fine papers subcategory which produce a paper product containing equal to or greater than 4% cotton fibers.

c7d XDeink subcategoryY includes those mills at which brightened or bleached deinked pulp is produced from wastepapers using an alkaline process to remove contaminants such as ink and coating pigments.

Note: Principal products include fine papers such as printing, writing and business papers, tissue papers, newsprint and market pulp.

c8d XDissolving kraft subcategoryY includes those mills at which a highly bleached pulp is produced by a full cook process employing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor. Included in the manufacturing process is a precook operation termed prehydrolysis.

Note: The principal product at these mills is a highly bleached and purified dis-

solving pulp used principally for manufacture of rayon and other products requiring the virtual absence of lignin and a very high alpha cellulose content.

c9d X**Dissolving sulfite pulp subcategoryY** includes those mills at which a highly bleached pulp is produced in a full cook process employing strong solutions of sulfites of calcium, magnesium, ammonia or sodium.

Note: Principal products include viscose, nitration, cellophane or acetate grade pulps which are used principally for the manufacture of rayon and other products that require the virtual absence of lignin.

c10d X**Fine bleached kraft subcategoryY** includes those mills at which bleached kraft pulp is produced in a full cook process employing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor.

Note: Principal products are fine papers, which includes business, writing and printing papers, and market pulp.

c11d X**Full cookY** means chemical pulping methods which employ the heating under pressure of wood, water and chemicals in a closed vessel to a temperature sufficient to separate the fibrous portion of the wood by dissolving lignin and other nonfibrous constituents.

c12d X**FWPY** means X**from wastepaper.Y**

c13d X**Groundwood-chemi-mechanical subcategoryY** includes those mills at which pulp is produced, with or without brightening, utilizing a chemical cooking liquor to partially cook the wood followed by mechanical defibration by refining, resulting in yields of 90% or greater.

Note: Principal products include fine papers, newsprint, molded fiber products and market pulp.

c14d X**Groundwood-CMN papers subcategoryY** includes those mills at which groundwood pulp is produced, with or without brightening, utilizing only mechanical defibration by either stone grinders or refiners.

Note: Principal products include coarse papers cCd, molded fiber products cMd, newsprint cNd and market pulp.

c15d X**Groundwood-fine papers subcategoryY** includes those mills at which groundwood pulp is produced, with or without brightening, utilizing only mechanical defibration by either stone grinders or refiners.

Note: Principal products are fine papers, which includes business, writing and printing papers, and market pulp.

c16d X**Groundwood-thermo-mechanical subcategoryY** includes those mills at which pulp is produced in a brief cook process employing steam, with or without the addition of cooking chemicals, such as sodium sulfite, followed by mechanical defibration by refiners, which are frequently under pressure, resulting in yields of approximately 95% or greater. The pulp may be brightened using hydrosulfite or peroxide bleaching chemicals. Principal products include market pulp, fine papers, newsprint and tissue papers.

c17d X**IntegratedY** means a term used to describe a pulp and paper mill operation in which all or some of the pulp is processed into paper at the mill.

c18d X**Market bleached kraft subcategoryY** includes those mills at which bleached pulp is produced in a full cook process employing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor.

Note: The principal product is papergrade market pulp.

c19d X**New sourceY** for direct dischargers means any point source the construction of which commenced after January 3, 1983; and for indirect dischargers means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after January 6, 1981.

c20d X**Noncontinuous dischargerY** means a point source which discharges wastewaters pursuant to a WPDES permit which:

cad Prohibits the discharge of pollutants during specified periods of time in excess of 24 hours in duration for purposes other than control of treatment plant upsets, and

cbd Specifies that annual average limitations are applicable to such a discharge.

c21d X**Noncorrugating medium furnish subdivisionY** includes those mills in the paperboard from wastepaper subcategory where recycled corrugating medium is not used in the production of paperboard.

c22d X**Nonintegrated-filter and nonwoven papers subcategoryY** includes those mills at which filter papers and nonwoven items are produced from wood pulp, secondary fibers and nonwood fibers which are prepared at other sites.

Note: Principal products include filter and blotting papers, nonwoven packaging and specialty papers, insulation, technical papers and gaskets.

c23d X**Nonintegrated-fine papers subcategoryY** includes those mills at which fine papers are produced from wood pulp or deinked pulp prepared at other sites.

Note: Principal products include printing, business, writing and technical papers.

c24d X**Nonintegrated-lightweight papers subcategoryY** includes those mills at which lightweight or thin papers are produced from wood pulp or secondary fibers prepared at other sites and from nonwood fibers and additives.

Note: Principal products include uncoated thin papers, such as carbonizing papers and cigarette papers, and some special grades of tissue such as capacitor, pattern, and interleaf.

c25d X**Nonintegrated-paperboard subcategoryY** includes those mills at which paperboard is produced from wood pulp or secondary fibers prepared at other sites. Mills at which electrical grades of board or matrix board are produced are not included in this subcategory.

Note: Principal products include linerboard, folding boxboard, milk cartons, food board, chip board, pressboard, and other specialty boards.

c26d X**Nonintegrated-tissue papers subcategoryY** includes those mills at which tissue papers are produced from wood pulp or deinked pulp prepared at other sites.

Note: Principal products include facial and toilet papers, glassine, paper diapers and paper towels.

c27d X**Paperboard from wastepaper subcategoryY** includes those mills at which paperboard products are manufactured, without bleaching, from wastepapers including corrugated boxes, box board and newspapers. Those mills at which wastepaper comprises less than 80% of the raw material fibers are not included in this subcategory.

Note: Principal products include a wide variety of items used in commercial packaging, such as bottle cartons.

c28d X**Papergrade sulfite cblow pit washd subcategoryY** includes those mills at which sulfite pulp is produced in full cook process employing an acidic cooking liquor of sulfites of calcium, magnesium, ammonia or sodium. Following cooking operations, spent cooking liquor is washed from the pulp in blow pits.

Note: Principal products include tissue papers, newspapers, fine papers and market pulp.

c29d X**Papergrade sulfite cdrum washd subcategoryY** includes those mills at which sulfite pulp is produced in a full cook process using an acidic cooking liquor of sulfites of calcium, magnesium, ammonia or sodium. Following cooking operations, spent cooking liquor is washed from the pulp on vacuum or pressure drums. Also included are mills using belt extraction systems for pulp washing.

Note: Principal products include tissue papers, fine papers, newsprint and market pulp.

c30d X**PCPY** means pentachlorophenol.

c31d X**ProductionY** means the annual off-the-machine production, including off-the-machine coating where applicable, divided by the number of operating days during that year.

c32d X**Semi-chemical subcategoryY** includes those mills at

which pulp is produced using a process that involves the cooking of wood chips under pressure with a variety of cooking liquors including neutral sulfite and combinations of soda ash and caustic soda. The cooked chips are usually refined before being converted into board or similar products. Sodium base neutral sulfite semi-chemical and ammonia base neutral sulfite semi-chemical mills are included in this subcategory for BPT and NSPS.

Note: Principal products include corrugating medium, insulating board, partition board, chip board, tube stock, and speciality boards.

c33d XSettleable solidsY means the amount of settleable matter present in an effluent sample as determined by the test described in XStandard Methods for the Examination of Water and Wastewater, Y 15th edition c1980d.

Note: Copies are available for inspection at the office of the department of natural resources, the secretary of state's office, and the office of the legislative reference bureau, and may be obtained for personal use from the American Public Health Association, Inc., 1015 Fifteenth St., NW, Washington, D.C. 20005.

c34d XSoda subcategoryY includes those mills at which bleached soda pulp is produced in full cook process employing a highly alkaline sodium hydroxide cooking liquor.

Note: Principal products are fine papers, which include printing, writing and business papers and market pulp.

c35d XTCPY means trichlorophenol.

c36d XTissue from wastepaper subcategoryY includes those mills at which tissue papers are produced from wastepapers without deinking.

Note: Principal products include facial and toilet paper, glassine, paper diapers and paper towels.

c37d XTSSY means total suspended nonfilterable solids as measured by the technique using glass fiber disks specified in XStandard Methods for the Examination of Water and Wastewater, Y 15th edition c1980d.

Note: Copies are available as set forth in sub. c33d cNoted.

c38d XUnbleached kraft subcategoryY includes those mills at which unbleached pulp is produced in a full cook process employing a highly alkaline sodium hydroxide and sodium sulfide cooking liquor.

Note: Principal products include linerboard, the smooth facing of corrugated boxes; and bag papers.

c39d XUnbleached kraft and semi-chemical subcategoryY includes those mills at which unbleached pulp is produced using 2 pulping processes: unbleached kraft and semi-chemical, where semi-chemical cooking liquor is burned within the kraft chemical recovery system. Unbleached kraft-neutral sulfite semi-chemical mills are included in this subcategory.

Note: Principal products include both linerboard and corrugating medium used in the production of corrugated boxes.

c40d XUnbleached kraft-neutral sulfite semi-chemical ccross-recoveryd subcategoryY includes those mills at which unbleached pulp is produced using both unbleached kraft and neutral sulfite semi-chemical, where the spent neutral sulfite semi-chemical cooking liquor is burned within the kraft chemical recovery system.

Note: Principal products include both linerboard and corrugating medium used in the production of corrugated boxes.

c41d XWastepaper-molded products subcategoryY includes those mills at which molded products are produced from wastepapers without deinking.

Note: Principal products include molded items such as fruit and vegetable packs and similar throw-away containers and display items.

c42d XWet barking operationsY include hydraulic barking operations and wet drum barking operations which are those drum barking operations that use substantial quantities of water in either water sprays in the barking drums or in a partial submersion of the drums in a tub of water.

c43d XWood fiber furnish subdivisionY includes those mills

in the nonintegrated-fine papers subcategory where cotton fibers are not used in the production of fine papers.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.04 Application of effluent limitations and standards. c1d The production basis for application of the limitations and standards set forth in this chapter shall be the annual production divided by the number of operating days in the year for each subcategory subject to the provisions of this chapter, except for those limitations set forth in Tables 1 and 3 for which only the proportion of the mill[s] production subject to the activities listed in Tables 1 and 3, or due to use of logs or chips subject to the activities listed in Tables 1 and 3, shall be subject to the limitations set forth in Tables 1 and 3.

c2d For facilities subject to effluent limitations in more than one subcategory, the discharge limitations shall be the aggregate of limitations applicable to the total production covered by each subcategory.

c3d Only noncontinuous dischargers shall be subject to annual average limitations. When annual average limitations are applied, the department shall establish daily maximum and monthly average concentration limitations for BOD₅, TSS, and zinc reflecting wastewater treatment levels representative of best practicable control technology currently available in lieu of the monthly average and daily maximum limitations set forth in Table 1.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

Subchapter I — Direct Discharges

NR 284.10 Applicability. The provisions in this subchapter are applicable to discharges of wastewater from the pulp and paper manufacturing category of point sources into waters of the state.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.11 Compliance dates. Discharge of pollutants from facilities subject to the provisions of this subchapter may not exceed, as appropriate:

c1d By July 1, 1977 effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available cBPTd;

c2d By July 1, 1984 effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable cBATd;

c3d At the commencement of discharge for new source performance standards cNSPSd.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.115 Measure of production. Paper or paperboard production shall be measured at the paper machine takeup reel in off-the-machine moisture content, except for the semi-chemical, unbleached kraft, unbleached kraft-neutral sulfite semi-chemical ccross recoveryd, and paperboard from wastepaper subcategories where paper and paperboard production shall be measured in air-dry-tons c10% moisture contentd. Market pulp shall be measured in air-dry-tons c10% moistured. Production shall be determined based on past production practices, present trends or committed growth.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.12 Discharge standards. c1d BEST PRACTICABLE TECHNOLOGY. The following effluent limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this subchapter, after application to process wastes of the best

practicable control technology currently available. These limitations for all or specific subcategories shall be applied in accordance with s. NR 284.04, except as provided in subch. IV of ch. NR 220.

cad The daily maximum and 30-day average limitations for BOD₅, TSS and zinc are set forth in Table 1 in lbs{ton of product.

cbd Noncontinuous dischargers shall not be subject to the daily maximum and 30-day average limitations for BOD₅, TSS and zinc, but shall be subject to annual average effluent limitations set forth in Table 2.

ccd The annual average limitations for BOD₅, TSS and zinc are set forth in Table 2 in lbs{ton of product.

cdd The limitations for wet barking operations, log washing or chip washing, and log flumes or log ponds set forth in Table 1 are in addition to the limitations for the specific base subcategory set forth in that table.

ced Dischargers which continuously monitor pH shall be subject to the provisions set forth in s. NR 205.06

**TABLE 1
BPT Effluent Limitations**

Subcategory	BOD ₅		TSS		Zinc ¹		pH ² std. units
	daily max. clbs{tond	30-day avg. clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	
Integrated Facilities							
1. BCT Bleached Kraft	27.3	14.2	48.0	25.8			5-9
cad Wet barking	4.5	2.4	11.5	6.2			5-9
cbd Log washing or chip washing	0.5	0.3	1.3	0.7			5-9
ccd Log flumes or log ponds	0.9	0.5	2.5	1.4			5-9
2. Fine Bleached Kraft	21.2	11.0	44.3	23.8			5-9
cad Wet Barking	3.9	2.0	10.6	5.7			5-9
cbd Log washing or chip washing	0.4	0.2	1.1	0.6			5-9
ccd Log flumes or log ponds	0.7	0.4	2.3	1.2			5-9
3. Groundwood—CMN Papers	14.9	7.8	25.5	13.7	0.6	0.3	5-9
a. Wet Barking	2.3	1.1	4.0	2.2			5-9
b. Log washing or chip washing	0.3	0.1	0.4	0.3			5-9
c. Log flumes or log ponds	0.5	0.2	0.9	0.5			5-9
4. Groundwood-Chemi-Mechanical	27.0	14.1	39.5	21.3	0.68	0.34	5-9
a. Wet Barking	1.8	0.9	5.2	2.9			5-9
b. Log washing or chip washing	0.1	0.1	0.5	0.3			5-9
c. Log flumes or log ponds	0.3	0.1	1.1	0.6			5-9
5. Groundwater-Fine Papers	13.7	7.2	23.5	12.6	0.55	0.27	5-9
a. Wet Barking	2.2	1.1	3.9	2.2			5-9
b. Log washing or chip washing	0.3	0.1	0.4	0.3			5-9
c. Log flumes or log ponds	0.4	0.1	0.8	0.5			5-9
6. Groundwood-Thermo-Mechanical	21.2	11.1	31.1	16.7	0.52	0.26	5-9
a. Wet Barking	1.8	0.9	5.4	2.9			5-9
b. Log washing or chip washing	0.1	0.1	0.6	0.3			5-9
c. Log flumes or log ponds	0.3	0.2	1.0	0.7			5-9
7. Papergrade Sulfite cBlow Pit Washd							
cad Bisulfite liquor{surface condensers	63.6	33.1	87.9	47.3			5-9
cbd Bisulfite liquor{barometric condensers	69.4	36.1	104.4	56.2			5-9
ccd Acid sulfite liquor{surface condensers	64.6	33.6	87.9	47.3			5-9
cdd Acid sulfite liquor{barometric condensers	71.1	37.0	104.4	56.2			5-9
ced Wet barking	5.4	2.9	15.0	7.9			5-9
cfid Log washing or chip washing	0.3	0.2	5.1	2.7			5-9
cgid Log flumes or log ponds	0.7	0.4	3.4	1.8			5-9
8. Papergrade Sulfite cDrum Washd							
cad Bisulfite liquor{surface condensers ³	53.4	27.8	87.9	47.3			5-9
cbd Bisulfite liquor{barometric condensers ³	58.8	30.6	104.4	56.2			5-9
ccd Acid sulfite liquor{surface condensers ³	59.5	31.0	87.9	47.3			5-9
cdd Acid sulfite liquor{barometric condensers ³	65.0	33.8	104.4	56.2			5-9
ced Continuous digesters	76.3	39.7	107.5	57.9			5-9
cfid Wet barking	6.1	3.2	15.0	7.9			5-9
cgid Log washing or chip washing	0.7	0.4	5.1	2.7			5-9
chid Log flumes or log ponds	1.4	0.7	3.4	1.8			5-9
9. Semi-Chemical							
cad Ammonia Base Mills	16.0	8.0	20.0	10.0			6-9
cbd Sodium Base Mills	17.4	8.7	22.0	11.0			6-9

TABLE 1 (Continued)
BPT Effluent Limitations

Subcategory	BOD ₅		TSS		Zinc ¹		pH ²
	daily max. clbs{tond	30-day avg. clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	
10. Soda	27.4	14.2	49.0	26.4			5-9
a. Wet Barking	4.1	2.2	10.5	5.6			5-9
b. Log washing or chip washing	0.3	0.2	1.0	0.5			5-9
c. Log flumes or log ponds	0.6	0.4	2.2	1.1			5-9
11. Unbleached Kraft	11.2	5.6	24.0	12.0			6-9
12. Unbleached Kraft and Semi-Chemical	—	—	—	—			
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross-Recoveryd	16.0	8.0	25.0	12.5			6-9
Nonintegrated Facilities							
14. Nonintegrated-Filter and Nonwoven Papers	59.2	32.6	53.2	26.0			5-9
15. Nonintegrated-Fine Papers							
a. Wood fiber furnish subdivision	16.4	8.5	22.0	11.8			5-9
b. Cotton fiber furnish subdivision	34.8	18.2	48.6	26.2			
16. Nonintegrated-Lightweight Papers cad Facilities where electrical grade papers are produced	48.2 76.0	26.4 41.8	43.2 68.4	21.2 33.4			5-9 5-9
17. Nonintegrated-Paperboard	13.0	7.2	11.6	5.6			5-9
18. Nonintegrated-Tissue Papers	22.8	12.5	20.5	10.0			5-9
From Wastepaper Facilities							
19. Builders[Paper and Roofing Felt ⁴	10.0	6.0	10.0	6.0			6-9
20. Deink	36.2	18.8	48.1	25.9			5-9
21. Paperboard FWP cad Noncorrugating medium furnish subdivision	6.0	3.0	10.0	5.0			6-9
cbd Corrugating medium furnish subdivision	11.4	5.6	18.4	9.2			6-9
22. Tissue FWP	27.4	14.2	34.1	18.4			5-9
23. Wastepaper-Molded Products	8.8	4.6	21.6	11.6			5-9
Pulp Facilities							
24. Dissolving Kraft cad Wet barking	47.2 6.4	24.5 3.4	74.6 13.8	40.1 7.5			5-9 5-9
cbd Log washing or chip washing	0.7	0.4	1.4	0.8			5-9
ccd Log flumes or log ponds	1.2	0.7	2.9	1.6			5-9
25. Dissolving Sulfite Pulp cad Facilities where nitration grade pulp is produced	82.8	43.0	141.3	76.1			5-9
cbd Facilities where viscose grade pulp is produced	88.6	46.0	141.3	76.1			5-9
ccd Facilities where cellophane grade pulp is produced	96.1	49.9	141.3	76.1			5-9
cdd Facilities where acetate grade pulp is produced	101.6	52.8	141.3	76.1			5-9
ced Wet barking	1.4	0.7	0.3	0.2			5-9
cfd Log washing or chip washing	0.3	0.2	0.3	0.2			5-9
cgd Log flumes or log ponds	0.3	0.2	0.3	0.2			5-9
26. Market Bleached Kraft cad Wet barking	30.9 4.6	16.1 2.4	60.8 10.6	32.8 5.7			5-9 5-9
cbd Log washing or chip washing	0.4	0.2	1.2	0.6			5-9
ccd Log flumes or log ponds	0.8	0.4	2.3	1.2			5-9

Mass limitations are in lbs{ton. For kg{kk, divide by 2.

y=wastewater discharged in kgal per ton of product

x=percent sulfite pulp in final product

¹ These limitations apply only to groundwood facilities using zinc hydrosulfite as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

² Dischargers which continuously monitor pH shall be subject to the provisions set forth in s. NR 205.06.

³ Limitations do not apply to mills using continuous digesters.

⁴ Settleable solids shall not exceed 0.2 mg{l.

TABLE 2¹
BPT: Annual Average Limitations for BOD₅, TSS and Zinc

Subcategory	Activity{Process	BOD ₅ annual avg. lbs{ton	TSS annual avg. lbs{ton	Zinc ² annual avg. lbs{ton
Integrated Facilities				
1.	BCT Bleached Kraft	7.96	14.16	
	a. wet barking	1.28	3.4	
	b. log washing or chip washing	0.1	0.4	
	c. log flumes or log ponds	0.2	0.7	
2.	Fine Bleached Kraft	6.16	13.06	
	a. wet barking	1.08	3.08	
	b. log washing or chip washing	0.1	0.3	
	c. log flumes or log ponds	0.2	0.6	
3.	Groundwood—CMN Papers	4.38	7.52	
	a. wet barking	0.6	1.2	
	b. log washing or chip washing	0.1	0.2	
	c. log flumes or log ponds	0.1	0.28	
	d. zinc hydrosulfite bleaching	—	0.2	
4.	Groundwood-Chemi-Mechanical	7.92	11.7	
	a. wet barking	0.5	1.6	
	b. log washing or chip washing	0.1	0.2	
	c. log flumes or log ponds	0.1	0.3	
	d. zinc hydrosulfite bleaching	—	—	0.22
5.	Groundwood-Fine Papers	4.04	6.92	
	a. wet barking	0.7	1.2	
	b. log washing or chip washing	0.1	0.2	
	c. log flumes or log ponds	0.1	0.28	
	d. zinc hydrosulfite bleaching	—	—	0.18
6.	Groundwood-Thermo-Mechanical	6.22	9.16	
	a. wet barking	0.6	1.5	
	b. log washing or chip washing	0.1	0.1	
	c. log flumes or log ponds	0.1	0.3	
	d. zinc hydrosulfite bleaching	—	—	0.16
7.	Papergrade Sulfite cBlow Pit Washd			
	a. Bisulfite liquor{surface condensers	18.58	25.98	
	b. Bisulfite liquor{barometric condensers	20.28	30.86	
	c. Acid sulfite liquor{surface condensers	18.86	25.98	
	d. Acid sulfite liquor{barometric condensers	20.78	30.86	
	e. wet barking	1.6	4.38	
	f. log washing or chip washing	0.1	1.5	
	g. log flumes or log ponds	0.2	1.0	
8.	Papergrade Sulfite cDrum Washd			
	a. Bisulfite liquor{surface condensers ³	15.6	25.98	
	b. Bisulfite liquor{barometric condensers ³	17.18	30.86	
	c. Acid sulfite liquor{surface condensers ³	17.4	25.98	
	d. Acid sulfite liquor{barometric condensers ³	18.98	30.86	
	e. Continuous digesters	22.3	31.8	
	f. wet barking	1.78	4.38	
	g. log washing or chip washing	0.2	1.5	
	h. log flumes or log ponds	0.4	1.0	
9.	Soda	7.96	14.5	
	a. wet barking	1.2	3.08	
	b. log washing or chip washing	0.1	0.28	
	c. log flumes or log ponds	0.2	0.7	
Nonintegrated Facilities				
10.	Nonintegrated-Filter and Nonwo-ven Papers	18.2	14.76	
11.	Nonintegrated-Fine Papers			
	a. Wood fiber furnish subdivision	4.76	6.48	
	b. Cotton fiber furnish subdivision	10.22	14.38	
12.	Nonintegrated-Lightweight Papers	14.74	12.04	
	a. Facilities where electrical grade papers are produced	23.34	18.96	
13.	Nonintegrated-Paperboard	4.02	3.18	
14.	Nonintegrated-Tissue Papers	6.98	5.68	
From Wastepaper Facilities				
15.	Deink	10.56	14.22	
16.	Tissue FWP	7.96	10.1	
17.	Wastepaper-Molded Products	2.58	6.36	
Pulp Facilities				
18.	Dissolving Kraft	13.76	22.02	
	a. wet barking	1.88	3.98	
	b. log washing or chip washing	0.2	0.4	
	c. log flumes or log ponds	0.4	0.8	
19.	Dissolving Sulfite Pulp			

TABLE 2¹ (Continued)
BPT: Annual Average Limitations for BOD₅, TSS and Zinc

Subcategory	Activity{Process	BOD ₅	TSS	Zinc ²
		annual avg. lbs{ton	annual avg. lbs{ton	annual avg. lbs{ton
20. Market Bleached Kraft	a. Facilities where nitration grade pulp is produced	24.14	41.8	
	b. Facilities where viscose grade pulp is produced	25.84	41.8	
	c. Facilities where cellophane grade pulp is produced	28.02	41.8	
	d. Facilities where acetate grade pulp is produced	29.66	41.8	
	e. wet barking	0.4	0.1	
	f. log washing or chip washing	0.1	0.1	
	g. log flumes or log ponds	0.1	0.1	
		9.04	18.02	
	a. wet barking	1.4	3.08	
	b. log washing or chip washing	0.2	0.3	
	c. log flumes or log ponds	0.3	0.7	

Limitations are in lbs{ton. For kg{kkg, divide by 2.

¹ Applicable only to noncontinuous dischargers.

² For those groundwood facilities using zinc hydrosulfite as a bleaching agent in the manufacturing process the zinc effluent limitations are to be added to the base limitations. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

³ Not applicable to facilities using continuous digesters.

c2d BEST AVAILABLE TECHNOLOGY. The following effluent limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility subject to the provisions of this subchapter, after application to process wastes of the best available technology economically achievable. These limitations for all or specific subcategories shall be applied in accordance with s. NR 284.04, except as provided in subch. IV of ch. NR 220.

cad The daily maximum limitations for PCP, TCP and zinc are set forth in Table 3 in both lbs{ton and mg{l.

cbd PCP and TCP limitations are only applicable to facilities

where chlorophenolic-containing biocides are used. Permittees not using chlorophenolic-containing biocides shall certify to the department that they are not using these biocides.

ccd Zinc limitations are only applicable to groundwood facilities where zinc hydrosulfite is used as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

cdd Noncontinuous dischargers shall not be subject to daily maximum mass limitations in lbs{ton, but shall be subject to concentration limitations in mg{l.

TABLE 3
BAT Effluent Limitations

Subcategory	PCP ¹		TCP ¹		Zinc ²	
	maximum for any one day		maximum for any one day		maximum for any one day	
	lbs{ton	mg{l ³	lbs{ton	mg{l ³	lbs{ton	mg{l ³
Integrated Facilities						
1. BCT Bleached Kraft	0.0032	c0.011dc35.4d{y	0.02	c0.068dc35.4d{y		
2. Fine Bleached Kraft	0.0028	c0.011dc30.9d{y	0.0176	c0.068dc30.9d{y		
3. Groundwood-CMN Papers	0.0022	c0.011dc23.8d{y	0.00198	c0.010dc23.8d{y	0.60	c3.0dc23.8d{y
4. Groundwood-Chemi-Mechanical	—	—	—	—	—	—
5. Groundwood-Fine Papers	0.0020	c0.011dc21.9d{y	0.00184	c0.010dc21.9d{y	0.54	c3.0dc21.9d{y
6. Groundwood-Thermo-Mechanical	0.00194	c0.011dc21.1d{y	0.00176	c0.010dc21.1d{y	0.52	c3.0dc21.1d{y
7. Papergrade Sulfite	0.00116	cc0.011dc12.67d	0.0072	cc0.068dc12.67d		
cBlow Pit Washd	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
8. Papergrade Sulfite cDrum Washd	0.00116	cc0.011dc12.67d	0.0072	cc0.068dc12.67d		
	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
9. Semi-Chemical	0.0024	c0.029dc10.3d{y	0.00086	c0.010dc10.3d{y		
10. Soda	0.0028	c0.011dc30.9d{y	0.0176	c0.068dc30.9d{y		
11. Unbleached Kraft	0.00116	c0.011dc12.6d{y	0.00106	c0.010dc12.6d{y		
12. Unbleached Kraft and Semi-Chemical	0.00128	c0.11dc14.0d{y	0.00118	c0.010dc14.0d{y		
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross-Recoveryd	0.00128	c0.011dc14.0d{y	0.00118	c0.010dc14.0d{y		
Nonintegrated Facilities.						
14. Nonintegrated-Filter and Nonwoven Papers	0.0144	c0.029dc59.9d{y	0.005	c0.010dc59.9d{y		
15. Nonintegrated-Fine Papers						
cad Wood fiber furnish subdivision	0.0036	c0.029dc15.2d{y	0.00128	c0.010dc15.2d{y		
cbd Cotton fiber furnish subdivision	0.0102	c0.029dc42.3d{y	0.0036	c0.010dc42.3d{y		

**TABLE 3 (Continued)
BAT Effluent Limitations**

Subcategory	PCP ¹		TCP ¹		Zinc ²	
	maximum for any one day		maximum for any one day		maximum for any one day	
	lbs{ton	mg{l ³	lbs{ton	mg{l ³	lbs{ton	mg{l ³
16. Nonintegrated-Lightweight Papers cad Facilities where electrical grade papers are produced	0.0186	c0.029dc76.9d{y	0.0064	c0.010dc76.9d{y		
17. Nonintegrated-Paperboard	0.0032	c0.029dc12.9d{y	0.00108	c0.010dc12.9d{y		
18. Nonintegrated-Tissue Papers	0.0056	c0.029dc22.9d{y	0.00192	c0.010dc22.9d{y		
From Wastepaper Facilities						
19. Builders[Paper and Roofing Felt	0.0034	c0.029dc14.4d{y	0.0012	c0.010dc14.4d{y		
20. Deink cad Facilities where fine or tissue paper is produced	0.006	c0.029dc24.4d{y	0.0138	c0.068dc24.4d{y		
cbd Facilities where newsprint is produced	0.006	c0.029dc24.4d{y	0.002	c0.010dc24.4d{y		
21. Paperboard FWP	0.00174	c0.029dc7.2d{y	0.0006	c0.010dc7.2d{y		
22. Tissue FWP	0.006	c0.029dc25.2d{y	0.0022	c0.010dc25.2d{y		
23. Wastepaper-Molded Products	0.0052	c0.029dc21.1d{y	0.00176	c0.010dc21.1d{y		
Pulp Facilities						
24. Dissolving Kraft	0.005	c0.011dc55.1d{y	0.032	c0.068dc55.1d{y		
25. Dissolving Sulfite Pulp cad Facilities where nitration, viscose, or cellophane grade pulps are produced	0.006	c0.011dc66.0d{y	0.038	c0.068dc66.0d{y		
cbd Facilities where acetate grade pulp is produced	0.0066	c0.011dc72.7d{y	0.042	c0.068dc72.7d{y		
26. Market Bleached Kraft	0.0038	c0.011dc41.6d{y	0.024	c0.068dc41.6d{y		

Mass limitations are in lbs{ton except where otherwise stated. For kg{kkg, divide by 2.

y=wastewater discharged in kgal per ton of product.

x=percent sulfite in final product.

¹These limitations apply only to facilities where chlorophenolic - containing biocides are used. Permittees not using chlorophenolic - containing biocides shall certify to the department that they are not using these biocides.

²These limitations apply only to groundwood facilities using zinc hydrosulfite as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

³Applies only to noncontinuous dischargers.

c3d NEW SOURCE PERFORMANCE STANDARDS. The following effluent limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a facility which is a new source subject to the provisions of this subchapter. These limitations for all or specific subcategories shall be applied in accordance with s. NR 284.04, except as provided in subch. IV of ch. NR 220.

cad The daily maximum and 30-day average limitations for BOD₅ and TSS are set forth in Table 4 in lbs{ton of product.

cbd The daily maximum limitations for PCP, TCP and zinc are set forth in Table 5 in both lbs{ton and mg{l.

ccd The pH of all discharges shall be within the range of 5.0 to 9.0. Dischargers which continuously monitor pH shall be subject to the provisions set forth in s. NR 205.06.

cdd PCP and TCP limitations are only applicable to facilities where chlorophenolic-containing biocides are used. Permittees not using chlorophenolic-containing biocides shall certify to the department that they are not using these biocides.

ced Zinc limitations are only applicable to groundwood facilities where zinc hydrosulfite is used as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

cfđ Noncontinuous dischargers shall not be subject to the daily maximum and 30-day average limitations for BOD₅ and TSS, but shall be subject to annual average effluent limitations set forth in Table 4. Noncontinuous dischargers also shall be subject to concentration limitations in mg{l where provided.

**TABLE 4
NSPS Effluent Limitations**

Subcategory	BOD ₅			TDD		
	daily max. clbs{tond	30-day avg. clbs{tond	annual avg. ¹ clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	annual avg. ¹ clbs{tond
Integrated Facilities						
1. BCT Bleached Kraft	17.0	9.2	4.8	29.2	15.2	8.0
2. Fine Bleached Kraft	11.4	6.2	3.24	18.2	9.6	5.04
3. Groundwood—CMN Papers	9.2	5.0	2.6	14.6	7.6	4.0
4. Groundwood-Chemi-Mechanical	—	—	—	—	—	—
5. Groundwood-Fine Papers	7.0	3.8	1.98	11.6	6.0	3.14
6. Groundwood-Thermo-Mechanical	9.2	5.0	2.6	17.4	9.2	4.84
7. Papergrade Sulfite cBlow Pit Washd*	8.76 exp c0.017xd	4.72 exp c0.017xd	*	11.62 exp c0.017xd	6.06 exp c0.017xd	*
8. Papergrade Sulfite	8.76 exp	4.72 exp		11.62 exp	6.06 exp	

TABLE 4 (Continued)
NSPS Effluent Limitations

Subcategory	BOD ₅			TDD		
	daily max. clbs{tond	30-day avg. clbs{tond	annual avg. ¹ clbs{tond	daily max. clbs{tond	30-day avg. clbs{tond	annual avg. ¹ clbs{tond
cDrum Washd*	c0.017xd	c0.017xd	*	c0.017xd	c0.017xd	*
9. Semi-Chemical	6.0	3.2	1.66	11.6	6.0	3.14
10. Soda	11.4	6.2	3.24	18.2	9.6	5.04
11. Unbleached Kraft						
cad Facilities where linerboard is produced	6.8	3.6	1.88	11.6	6.0	3.14
cbd Facilities where bag paper and other mixed products are produced	10.0	5.4	2.82	18.2	9.6	5.04
12. Unbleached Kraft and Semi-Chemical	7.8	4.2	2.18	14.6	7.6	4.0
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross Recoveryd	7.8	4.2	2.18	14.6	7.6	4.0
Nonintegrated Facilities						
14. Nonintegrated-Filter and Nonwoven Papers	34.2	16.6	11.2	30.0	13.2	8.04
15. Nonintegrated-Fine Papers						
cad Wood fiber furnish subdivision	7.0	3.8	1.98	8.8	4.6	2.42
cbd Cotton fiber furnish subdivision	15.6	8.4	4.38	19.0	9.8	5.14
16. Nonintegrated-Lightweight Papers	27.4	13.4	9.04	24.0	10.4	6.34
cad Facilities where electrical grade papers are produced	48.2	23.4	15.8	42.2	18.4	11.2
17. Nonintegrated-Paperboard	8.0	3.8	2.56	7.0	3.0	1.82
18. Nonintegrated-Tissue Papers	14.0	6.8	4.58	12.0	5.2	3.16
From Wastepaper Facilities						
19. Builders[Paper and Roofing Felt	3.4	1.88	0.98	5.4	2.8	1.46
20. Deink						
cad Facilities where fine paper is produced	11.4	6.2	3.24	17.4	9.2	4.84
cbd Facilities where tissue paper is produced	19.2	10.4	5.44	26.2	13.6	7.14
ccd Facilities where newsprint is produced	12.0	6.4	3.34	24.0	12.6	6.62
21. Paperboard FWP						
cad Noncorrugating medium furnish subdivision	5.2	2.8	1.46	7.0	3.6	1.88
cbd Corrugating medium furnish subdivision	7.8	4.2	2.18	8.8	4.6	2.42
22. Tissue FWP	9.2	5.0	2.6	20.4	10.6	5.56
23. Wastepaper-Molded Products	4.2	2.2	1.14	8.8	4.6	2.42
Pulp Facilities						
24. Dissolving Kraft	31.2	16.8	8.78	54.6	28.6	15.04
25. Dissolving Sulfite Pulp						
cad Facilities where nitration grade pulp is produced	53.8	29.0	15.18	81.6	42.6	22.42
cbd Facilities where viscose grade pulp is produced	57.4	31.0	16.22	81.6	42.6	22.42
ccd Facilities where cellophane grade pulp is produced	62.4	33.2	17.38	81.6	42.6	22.42
cdd Facilities where acetate grade pulp is produced	79.2	42.8	22.4	82.2	43.0	22.62
26. Market Bleached Kraft	20.6	11.0	5.74	36.4	19.0	10.0

Mass limitations are in lbs{ton. For kg{kkg, divide by 2.

y=wastewater discharged in kgal per ton of product.

x=percent sulfite pulp in final product.

pH=within the range of 5.0-9.0 at all times. Dischargers which continuously monitor pH shall be subject to the provisions set forth in s. NR 205.06.

*Annual average effluent limitations for this subcategory shall be determined by dividing the 30-day average limitations for BOD₅ by 1.91 and TSS by 1.90.

¹ These limitations apply only to noncontinuous dischargers.

TABLE 5
NSPS Effluent Limitation

Subcategory	PCP ¹		TCP ¹		Zinc ²	
	maximum for any one day lbs{ton	maximum for any one day mg{l ³	maximum for any one day lbs{ton	maximum for any one day mg{l ³	maximum for any one day lbs{ton	maximum for any one day mg{l ³
Integrated Facilities						
1. BCT Bleached Kraft	0.0032	c0.012dc31.7d{y	0.02	c0.076dc31.7d{y		
2. Fine Bleached Kraft	0.0028	c0.014dc25.1d{y	0.0176	c0.084dc25.1d{y		
3. Groundwood—CMN Papers	0.0022	c0.016dc16.8d{y	0.00198	c0.014dc16.8d{y	0.42	c3.0dc16.8d{y
4. Groundwood-Chemi-Mechanical	—	—	—	—	—	—
5. Groundwood-Fine Papers	0.002	c0.016dc15.4d{y	0.00184	c0.014dc15.4d{y	0.38	c3.0dc15.4d{y
6. Groundwood-Thermo-Mechanical	0.00194	c0.017dc13.8d{y	0.00176	c0.015dc13.8d{y	0.34	c3.0dc13.8d{y
7. Papergrade Sulfite	0.00116	cc0.015dc9.12d	0.0072	cc0.094dc9.12d		
cBlow Pit Washd	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
8. Papergrade Sulfite	0.00116	cc0.015dc9.12d	0.0072	cc0.094dc9.12d		
cDrum Washd	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
9. Semi-Chemical	0.0024	c0.041dc7.3d{y	0.00086	c0.014dc7.3d{y		
10. Soda	0.0028	c0.014dc25.1d{y	0.0176	c0.084dc25.1d{y		
11. Unbleached Kraft						
cad Facilities where linerboard is produced	0.00116	c0.015dc9.4d{y	0.00106	c0.013dc9.4d{y		
cbd Facilities where bag paper and other mixed products are produced.	0.00116	c0.012dc11.4d{y	0.00106	c0.011dc11.4d{y		
12. Unbleached Kraft and Semi-Chemical	0.00128	c0.013dc11.5d{y	0.00118	c0.012dc11.5d{y		

TABLE 5 (Continued)
NSPS Effluent Limitation
PCP¹

Subcategory	maximum for any one day		TCP ¹		Zinc ²	
	lbs{ton	mg{l ³	lbs{ton	mg{l ³	lbs{ton	mg{l ³
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross Recoveryd Nonintegrated Facilities	0.00128	c0.013dc11.5d{y	0.00118	c0.012dc11.5d{y		
14. Nonintegrated-Filter and Nonwoven Papers	0.0144	c0.037dc47.5d{y	0.005	c0.013dc47.5d{y		
15. Nonintegrated-Fine Papers						
cad Wood fiber furnish subdivision	0.0036	c0.047dc9.4d{y	0.00128	c0.016dc9.4d{y		
cbd Cotton fiber furnish subdivision	0.0102	c0.039dc31.1d{y	0.0036	c0.014dc31.1d{y		
16. Nonintegrated-Lightweight Papers	0.0118	c0.037dc38.2d{y	0.004	c0.013dc38.2d{y		
cad Facilities where electrical grade papers are produced	0.0186	c0.033dc66.8d{y	0.0064	c0.012dc66.8d{y		
17. Nonintegrated-Paperboard	0.0032	c0.033dc11.2d{y	0.00108	c0.012dc11.2d{y		
18. Nonintegrated-Tissue Papers	0.0056	c0.035dc19.1d{y	0.00192	c0.012dc19.1d{y		
From Wastepaper Facilities						
19. Builders[Paper and Roofing Felt	0.0034	c0.155dc2.7d{y	0.0012	c0.053dc2.7d{y		
20. Deink						
cad Facilities where fine paper is produced	0.006	c0.045dc15.9d{y	0.0138	c0.104dc15.9d{y		
cbd Facilities where tissue paper is produced	0.006	c0.036dc19.5d{y	0.0138	c0.065dc19.5d{y		
ccd Facilities where newsprint is produced	0.006	c0.044dc16.2d{y	0.002	c0.015dc16.2d{y		
21. Paperboard FWP						
cad Noncorrugating medium furnish subdivision	0.00174	c0.065dc3.2d{y	0.006	c0.023dc3.2d{y		
cbd Corrugating medium furnish subdivision	0.00174	c0.065dc3.2d{y	0.0006	c0.023dc3.2d{y		
22. Tissue FWP	0.006	c0.045dce16.3d{y	0.0022	c0.015dc16.3d{y		
23. Wastepaper-Molded Products	0.0052	c0.107dc5.7d{y	0.00176	c0.037dc5.7d{y		
Pulp Facilities						
24. Dissolving Kraft	0.005	c0.012dc50.7d{y	0.032	c0.074dc50.7d{y		
25. Dissolving Sulfite Pulp						
cad Facilities where nitration grade pulp is produced	0.006	c0.012dc59.0d{y	0.038	c0.012dc59.0d{y		
cbd Facilities where viscose grade pulp is produced	0.006	c0.012dc59.0d{y	0.038	c0.012dc59.0d{y		
ccd Facilities where cellophane grade pulp is produced	0.006	c0.012dc59.0d{y	0.038	c0.076dc59.0d{y		
cdd Facilities where acetate grade pulp is produced	0.0066	c0.012dc65.7d{y	0.042	c0.075dc65.7d{y		
26. Market Bleached Kraft	0.0038	c0.013dc36.6d{y	0.024	c0.077dc36.6{yd		

Mass limitations are in lbs{ton except where otherwise stated. For kg{kkg, divide by 2.

y=wastewater discharged in kgal per ton of product.

x=percent sulfite in final product.

pH=within the range of 5.0 - 9.0 at all times. Dischargers which continuously monitor pH shall be subject to the provisions set forth in s. NR 205.06.

¹These limitations apply only to facilities where chlorophenolic - containing biocides are used. Permittees not using chlorophenolic - containing biocides shall certify to the department that they are not using these biocides.

²These limitations apply only to groundwood facilities using zinc hydrosulfite as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

³Applicable only to noncontinuous dischargers.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86; correction in c1d cintro.d, c2d cintro.d, c3d cintro.d made under s. 13.92 c4d cbd 7, Stats., Register April 2018 No. 748.

Subchapter II — Indirect Discharges

NR 284.20 Applicability. The provisions in this subchapter are applicable to discharges of wastewater from the pulp and paper manufacturing category of point sources into publicly owned treatment works.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.21 Compliance dates. Discharge of pollutants from facilities subject to the provisions of this subchapter may not exceed, as appropriate:

c1d By July 1, 1984 for pretreatment standards for existing sources;

c2d At the commencement of discharge for pretreatment standards for new sources.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.215 Measure of production. Paper or paperboard production shall be measured at the paper machine takeup reel in off-the-machine moisture content, except for the semi-chemical unbleached kraft, unbleached kraft-neutral sulfite semi-chemical cross recoveryd, and paperboard from wastepaper sub-

categories where paper and paperboard production shall be measured in air-dry-tons c10% moisture contentd. Market pulp shall be measured in air-dry-tons c10% moistured. Production shall be determined based on past production practices, present trends or committed growth.

History: Cr. Register, October, 1986, No. 370, eff. 11-1-86.

NR 284.22 Discharge standards. c1d PRETREATMENT STANDARDS FOR EXISTING SOURCES CPSESD. Except as provided in ss. NR 211.13 and 211.14 pertaining to removal credits and fundamentally different factors, any existing source subject to this section which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for existing sources by July 1, 1984:

 cad The daily maximum limitations for PCP, TCP and zinc are set forth in Table 6 in both lbs{ton and mg{l.

 cbd PCP and TCP limitations are only applicable to facilities where chlorophenolic-containing biocides are used. Permittees not using chlorophenolic-containing biocides shall certify to the control authority that they are not using these biocides.

 ccd Zinc limitations are only applicable to groundwood facil-

ities where zinc hydrosulfite is used as a bleaching agent. agent shall certify to the control authority that they are not using
Groundwood facilities not using zinc hydrosulfite as a bleaching this bleaching compound.

TABLE 6
PSES Effluent Limitations

Subcategory	PCP ¹		TCP ¹		Zinc ²	
	maximum for any one day		maximum for any one day		maximum for any one day	
	lbs{ton	mg{l	lbs{ton	mg{l	lbs{ton	mg{l
Integrated Facilities						
1. BCT Bleached Kraft	0.0032	c0.011dc35.4d{y	0.024	c0.082dc35.4d{y		
2. Fine Bleached Kraft	0.0028	c0.011dc30.9d{y	0.022	c0.082dc30.9d{y		
3. Greenwood—CMN Papers	0.0022	c0.011dc23.8d{y	0.00198	c0.010dc23.8d{y	0.6	c3.0dc23.8d{y
4. Greenwood-Chemi-Mechanical	—	—	—	—	—	—
5. Greenwood-Fine Papers	0.002	c0.011dc21.9d{y	0.00184	c0.010dc21.9d{y	0.54	c3.0dc21.9d{y
6. Greenwood-Thermo-Mechanical	0.00194	c0.011dc21.1d{y	0.00176	c0.010dc21.1d{y	0.52	c3.0dc21.1d{y
7. Papergrade Sulfite cBlow Pit Washd	0.00116 expc0.017xd	cc0.011dc12.67d expc0.017xdd{y	0.0086 expc0.017xd	cc0.082dc12.67d expc0.017xdd{y		
8. Papergrade Sulfite cDrum Washd	0.00116 expc0.017xd	cc0.011dc12.67d expc0.017xdd{y	0.0086 expc0.017xd	cc0.082dc12.67d expc0.017xdd{y		
9. Semi-Chemical	0.0028	c0.032dc10.3d{y	0.00086	c0.010dc10.3d{y		
10. Soda	0.0028	c0.011dc30.9d{y	0.022	c0.082dc30.9d{y		
11. Unbleached Kraft	0.00116	c0.011dc12.6d{y	0.00106	c0.010dc12.6d{y		
12. Unbleached Kraft and Semi-Chemical	0.00128	c0.011dc14.0d{y	0.00118	c0.010dc14.0d{y		
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross Recoveryd	0.00128	c0.011dc14.0d{y	0.00118	c0.010dc14.0d{y		
Nonintegrated Facilities						
14. Nonintegrated-Filter and Nonwoven Papers	0.016	c0.032dc59.9d{y	0.005	c0.010dc59.9d{y		
15. Nonintegrated-Fine Papers cad Wood fiber furnish subdivision cbd Cotton fiber furnish subdivision	0.004 0.0112	c0.032dc15.2d{y c0.032dc42.3d{y	0.00128 0.0036	c0.010dc15.2d{y c0.010dc42.3d{y		
16. Nonintegrated-Lightweight Papers cad Facilities where electrical grade papers are produced	0.013 0.02	c0.032dc48.7d{y c0.032dc76.9d{y	0.004 0.0064	c0.010dc48.7d{y c0.010dc76.9d{y		
17. Nonintegrated Paperboard	0.0034	c0.032dc12.9d{y	0.00108	c0.010dc12.9d{y		
18. Nonintegrated-Tissue Papers	0.0062	c0.032dc22.9d{y	0.00192	c0.010dc22.9d{y		
From Wastepaper Facilities						
19. Builders[Paper and Roofing Felt	0.0038	c0.032dc14.4d{y	0.0012	c0.010dc14.4d{y		
20. Deink cad Facilities where fine or tissue paper is produced cbd Facilities where newsprint is produced	0.0066 0.0066	c0.032dc24.4d{y c0.032dc24.4d{y	0.0168 0.002	c0.082dc24.4d{y c0.010dc24.4d{y		
21. Paperboard FWP	0.00192	c0.032dc7.2d{y	0.0006	c0.010dc7.2d{y		
22. Tissue FWP	0.0068	c0.032dc25.2d{y	0.00192	c0.010dc25.2d{y		
23. Wastepaper-Molded Products	0.0056	c0.032dc21.1d{y	0.00176	c0.010dc21.1d{y		
Pulp Facilities						
24. Dissolving Kraft	0.005	c0.011dc55.1d{y	0.038	c0.082dc55.1d{y		
25. Dissolving Sulfite Pulp cad Facilities where nitration, viscose or cellophane grade pulps are produced cbd Facilities where acetate grade pulp is produced	0.006 0.0066	c0.011dc66.0d{y c0.011dc72.7d{y	0.046 0.05	c0.082dc66.0d{y c0.082dc72.7d{y		
26. Market Bleached Kraft	0.0038	c0.011dc41.6d{y	0.028	c0.082dc41.6d{y		

Mass limitations are in lbs{ton except where otherwise stated. For kg{kk, divide by 2.
y=wastewater discharged in kgal per ton of product.
x=percent sulfite in final product.

¹These limitations apply only to facilities where chlorophenolic - containing biocides are used. Permittees not using chlorophenolic - containing biocides shall certify to the department that they are not using these biocides.

²These limitations apply only to groundwood facilities using zinc hydrosulfite as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

³These limitations apply only when the publicly owned treatment works finds it necessary to impose mass effluent limitations.

c2d PRETREATMENT STANDARDS FOR NEW SOURCES CP-SNSD. Except as provided in s. NR 211.13 pertaining to removal credits, any new source subject to this section which introduces pollutants into a publicly owned treatment works shall comply with ch. NR 211 and achieve the following pretreatment standards for new sources:

cad The daily maximum limitations for PCP, TCP and zinc are set forth in Table 7 in both lbs{ton and mg{l.

cbd PCP and TCP limitations are only applicable to facilities where chlorophenolic-containing biocides are used. Permittees not using chlorophenolic-containing biocides shall certify to the control authority that they are not using these biocides.

ccd Zinc limitations are only applicable to groundwood facilities where zinc hydrosulfite is used as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the control authority that they are not using this bleaching compound.

TABLE 7
PSNS Effluent Limitations

Subcategory	PCP ¹		TCP ¹		Zinc ²	
	maximum for any one day lbs{ton ³	mg{l	maximum for any one day lbs{ton ³	mg{l	maximum for any one day lbs{ton ³	mg{l
Integrated Facilities						
1. BCT Bleached Kraft	0.0032	c0.012dc31.7d{y	0.024	c0.092dc31.7d{y		
2. Fine Bleached Kraft	0.0028	c0.014dc25.1d{y	0.022	c0.101dc25.1d{y		
3. Groundwood—CMN Papers	0.0022	c0.016dc16.8d{y	0.00198	c0.014dc16.8d{y	0.42	c3.0dc16.8d{y
4. Groundwood-Chemi-Mechanical	—	—	—	—	—	—
5. Groundwood-Fine Papers	0.002	c0.016dc15.4d{y	0.00184	c0.014dc15.4d{y	0.38	c3.0dc15.4d{y
6. Groundwood-Thermo-Mechanical	0.00194	c0.017dc13.8d{y	0.00176	c0.015dc13.8d{y	0.34	c3.0dc13.8d{y
7. Papergrade Sulfite	0.00116	cc0.015dc9.12d	0.0086	cc0.114dc9.12d		
cBlow Pit Washd	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
8. Papergrade Sulfite	0.00116	cc0.015dc9.12d	0.0086	cc0.114dc9.12d		
cDrum Washd	expc0.017xd	expc0.017xdd{y	expc0.017xd	expc0.017xdd{y		
9. Semi-Chemical	0.0028	c0.045dc7.3d{y	0.00086	c0.014dc7.3d{y		
10. Soda	0.0028	c0.014dc25.1d{y	0.022	c0.101dc25.1d{y		
11. Unbleached Kraft						
cad Facilities where linerboard is produced	0.00116	c0.015dc9.4d{y	0.00106	c0.013dc9.4d{y		
cbd Facilities where bag paper and other mixed products are produced	0.00116	c0.012dc11.4d{y	0.00106	c0.011dc11.4d{y		
12. Unbleached Kraft and Semi-Chemical	0.00128	c0.013dc11.5d{y	0.00118	c0.012dc11.5d{y		
13. Unbleached Kraft-Neutral Sulfite Semi-Chemical cCross Recoveryd	0.00128	c0.013dc11.5d{y	0.00118	c0.012dc11.5d{y		
Nonintegrated Facilities						
14. Nonintegrated-Filter and Nonwoven Papers	0.016	c0.040dc47.5d{y	0.005	c0.013dc47.5d{y		
15. Nonintegrated-Fine Papers						
cad Wood fiber furnish subdivision	0.004	c0.052dc9.4d{y	0.00128	c0.016dc9.4d{y		
cbd Cotton fiber furnish subdivision	0.0112	c0.044dc31.1d{y	0.0036	c0.014dc31.1d{y		
16. Nonintegrated-Lightweight Papers	0.013	c0.041dc38.2d{y	0.004	c0.013dc38.2d{y		
cad Facilities where electrical grade papers are produced	0.02	c0.037dc66.8d{y	0.0064	c0.012dc66.8d{y		
17. Nonintegrated-Paperboard	0.0034	c0.037dc11.2d{y	0.00108	c0.012dc11.2d{y		
18. Nonintegrated-Tissue Papers	0.0062	c0.038dc19.1d{y	0.00192	c0.012dc19.1d{y		
From Wastepaper Facilities						
19. Builders[Paper and Roofing Felt	0.0038	c0.171dc2.7d{y	0.0012	c0.053dc2.7d{y		
20. Deink						
cad Facilities where fine paper is produced	0.0066	c0.049dc15.9d{y	0.0168	c0.126dc15.9d{y		
cbd Facilities where tissue paper is produced	0.0066	c0.040dc19.5d{y	0.0168	c0.103dc19.5d{y		
ccd Facilities where newsprint is produced	0.0066	c0.048dc16.2d{y	0.002	c0.015dc16.2d{y		
21. Paperboard FWP	0.00192	c0.072dc3.2d{y	0.0006	c0.023dc3.2d{y		
22. Tissue FWP	0.0068	c0.049dc16.3d{y	0.0022	c0.015dc16.3d{y		
23. Wastepaper-Molded Products	0.0056	c0.118dc5.7d{y	0.00176	c0.037dc5.7d{y		
Pulp Facilities						
24. Dissolving Kraft	0.005	c0.012dc50.7d{y	0.038	c0.089dc50.7d{y		
25. Dissolving Sulfite Pulp						
cad Facilities where nitration, viscose or cellophane grade pulps are produced	0.006	c0.012dc59.0d{y	0.046	c0.092dc59.0d{y		
cbd Facilities where acetate grade pulp is produced	0.0066	c0.012dc65.7d{y	0.05	c0.091dc65.7d{y		
26. Market Bleached Kraft	0.0038	c0.013dc36.6d{y	0.028	c0.093dc36.6d{y		

Mass limitations are in lbs{ton except where otherwise stated. For kg{kkg, divide by 2.

y=wastewater discharged in kgal per ton of product.

x=percent sulfite in final product.

¹These limitations apply only to facilities where chlorophenolic - containing biocides are used. Permittees not using chlorophenolic - containing biocides shall certify to the department that they are not using these biocides.

²These limitations apply only to groundwood facilities using zinc hydrosulfite as a bleaching agent. Groundwood facilities not using zinc hydrosulfite as a bleaching agent shall certify to the department that they are not using this bleaching compound.

³These limitations apply only when the publicly owned treatment works find it necessary to impose mass effluent limitations.

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