

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Parts 430 and 431**

[FRL-3074-7]

Pulp, Paper, and Paperboard and the Builders' Paper and Board Mills Point Source Categories; Best Conventional Pollutant Control Effluent Limitations Guidelines**AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

SUMMARY: EPA is establishing effluent limitations guidelines based on the "best conventional pollutant control technology" (BCT) for the pulp, paper, and paperboard and the builders' paper and board mills point source categories as required by the Clean Water Act. This final regulation controls the discharge of five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH into waters of the United States by existing sources that produce pulp, paper, and paperboard.

DATES: In accordance with 40 CFR Part 23 (50 FR 7268), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on January 2, 1987. These regulations shall become effective February 2, 1987.

Under section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: On January 16, 1987, the complete public record for this rulemaking will be available for review in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, DC. The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

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I. Legal Authority

EPA is promulgating this regulation under the authority of sections 301, 304, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et seq., as amended by the Clean Water Act of 1977, Public Law 95-217; also called the "Act").

II. Scope of This Rulemaking

This final regulation applies to the pulp, paper, and paperboard and the builders' paper and board mills point source categories (hereafter known as the pulp, paper, and paperboard industry). These categories are included within the following: U.S. Department of Commerce, Bureau of the Census Standard Industrial Classifications (SIC): 2611 (pulp mills), 2621 (paper mills except building paper mills), 2631 (paperboard mills), and 2661 (building paper and building board mills).

Best conventional pollutant control technology limitations controlling BOD₅, TSS, and pH are established for 23 subcategories of the pulp, paper, and paperboard industry which are as follows:

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- Subpart A—unbleached kraft.
- Subpart B—semi-chemical.
- Subpart D—unbleached kraft-neutral-sulfite semi-chemical (cross recovery).
- Subpart E—paperboard from wastepaper.
- Subpart F—dissolving kraft.
- Subpart G—market bleached kraft.
- Subpart H—board, coarse, and tissue (BCT) bleached kraft.
- Subpart I—fine bleached kraft.
- Subpart J—papergrade sulfite (blow pit wash).
- Subpart K—dissolving sulfite pulp.

- Subpart N—groundwood-coarse, molded, and news (CMN) papers.
- Subpart O—groundwood-fine papers.
- Subpart P—soda.
- Subpart Q—deink.
- Subpart R—nonintegrated-fine papers.
- Subpart S—nonintegrated-tissue papers.
- Subpart T—tissue from wastepaper.
- Subpart U—papergrade sulfite (drum-wash).
- Subpart V—unbleached kraft and semi-chemical (BPT limitations for mills in this subcategory are included in subpart D—unbleached kraft-neutral sulfite semi-chemical (cross recovery)).
- Subpart W—wastepaper-molded products.
- Subpart X—nonintegrated-lightweight papers.
- Subpart Y—nonintegrated-filter and nonwoven papers, and.
- Subpart Z—nonintegrated-paperboard.

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- Subpart A—builders' paper and roofing felt.

BCT limitations are not being established for Subpart L of 40 CFR Part 430, the groundwood-chemi-mechanical subcategory. When BAT regulations were promulgated for the pulp, paper, and paperboard industry, this subcategory was excluded from regulation under authority of paragraph 8(a)(iv) of the Revised Settlement Agreement in *NRDC v. Costle*, 12 ERC 1833 (1979). New source and pretreatment standards for this subcategory were also not established due to insufficient data. For the same reason, BCT effluent limitations are not being established at this time for this subcategory. (See 46 FR 1446, January 6, 1981).

BCT limitations are also not established for the groundwood-thermo-mechanical subcategory (Subpart M) because insufficient data are available to develop costs and pollutant removals for this subcategory.

III. Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (Section 101(a).) To implement the Act, EPA was required to issue effluent limitations guidelines, pretreatment standards, and new source performance standards for industrial dischargers.

EPA promulgated effluent limitations guidelines based on best practicable control technology currently available and best available technology economically achievable and issued new source performance standards and pretreatment standards for existing and new sources for the pulp, paper, and paperboard industry on November 18, 1982 (47 FR 52006).

The 1977 amendments to the Clean Water Act added section 301(b)(2)(E) establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. Conventional pollutants are those defined in section 304(a)(4) [biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, and pH], and any additional pollutants defined by the Administrator as "conventional" (oil and grease, 44 FR 44501, July 30, 1979).

EPA originally published a methodology for carrying out the BCT analysis on August 24, 1979 (44 FR 50732). The core of this methodology was a comparison of the costs of removing additional pounds of conventional pollutants for industry to the costs of removing conventional pollutants for an average-sized publicly owned treatment works (POTW). The 1979 methodology was challenged in the U.S. Court of Appeals for the Fourth Circuit, and on July 28, 1981, the Court issued its decision. *American Paper Institute v. EPA*, 660 F.2d 954 (4th Cir. 1981). While upholding the methodology that EPA had developed for the POTW cost comparison test, the Court remanded the regulation to the Agency for two reasons. First, the Court held that the Clean Water Act requires EPA to consider two tests of "reasonableness" as part of the BCT methodology: A POTW cost-comparison test and an industry cost-effectiveness test. Since the 1979 methodology contained only the POTW cost test, the Court directed EPA to develop a separate industry cost-effectiveness test. If candidate BCT effluent limitations are not found "reasonable," after evaluation of both tests, then BCT limitations will be established equal to BPT. In no case may BCT be less stringent than BPT. Second, the Court remanded the regulation for EPA to correct certain statistical errors that had been made in calculating the POTW test.

The Agency proposed a revised methodology for the general development of BCT limitations on October 29, 1982 (47 FR 49176). EPA also

published new cost information and announced that additional information on the development of the BCT methodology was available on September 20, 1984 (49 FR 37046). The Agency has recently finalized this methodology. Details of the methodology development are presented in the preamble discussing the final BCT methodology (see FR 24974, July 9, 1986).

On January 6, 1981, EPA proposed BCT limitations for the pulp, paper, and paperboard industry (46 FR 1430); these regulations were repropoed in 1982 when the revised BCT methodology was issued in response to the *American Pulp Institute v. EPA* decision above (47 FR 49176, October 29, 1982). The final BCT limitations for the pulp, paper, and paperboard industry promulgated today have been developed based on the recently promulgated BCT methodology.

IV. Methodology and Data Gathering Efforts

EPA first proposed BCT limitations for the pulp, paper, and paperboard industry on January 6, 1981. A great amount of technical information used to develop the final BCT limitations was collected prior to that proposal. The methodology and data gathering activities associated with the January 1981 rulemaking are detailed in sections III, IV, and V of the preamble to those proposed rules (46 FR 1430). Following this proposal, the Agency received numerous public comments. In order to respond fully to these comments, EPA engaged in additional data gathering activities. In particular, the Agency obtained discharge monitoring reports (DMR) from Regional and State permitting authorities and collected additional conventional pollutant data under the authority of Section 308 of the Clean Water Act to update its records and broaden the existing data base. These activities are explained in the preamble to the final BPT, BAT, PSES, PSNS, and NSPS regulations for the pulp, paper, and paperboard industry (47 FR 52006, November 18, 1982) and in section II of the *Development Document for Best Conventional Pollutant Control Technology Effluent Limitations Guidelines for the Pulp, Paper, and Paperboard and the Builders' Paper and Board Mills Point Source Categories*, U.S. EPA, Washington, DC August 1986 (hereafter referred to as the *Final Pulp and Paper BCT Development Document*).

The Agency has responded to the issues raised by public commenters, and a summary of these responses may be found in section XII of this preamble, "Public Participation and Responses to Major Comments." A more detailed

presentation of comments and responses on the proposed BCT rules can be found in "Summary of Comments and Responses on the Proposed BCT Effluent Limitations Guidelines for the Pulp, Paper, and Paperboard Industry," which is part of the public record for this regulation.

V. Summary of Promulgated Regulations and Changes From Proposal

In reviewing comments on the proposed regulations, the Agency conducted extensive analyses of existing data, new data, and information submitted by the commenters. These analyses are listed in section XIII of this preamble. As a result of these analyses, the Agency made some changes in the control and treatment options considered for the basis of the BCT limitations and in the costs, energy, and non-water quality environmental impacts associated with each treatment option. These changes, including revisions to the cost of each treatment option, are explained in sections III and IV of the *Final Pulp and Paper BCT Development Document*.

In summary, when the BCT limitations were repropoed on October 29, 1982 (47 FR 49176), technology options for three subcategories passed the BCT cost test using the 1982 repropoed BCT methodology: The papergrade sulfite (drum wash), papergrade sulfite (blow pit wash), and the groundwood-thermo-mechanical subcategories. The BCT limitations for these subcategories were proposed based on BPT technology plus in-plant controls which is explained in section VI of this preamble. The remaining twenty-one subcategories failed the repropoed BCT cost test for all technology options; therefore, BCT limitations for these subcategories were proposed equal to BPT.

The final BCT effluent limitations guidelines issued today differ from the proposed regulations in several respects. After the Agency's review of all comments on the proposed rules and further analyses of additional data, EPA made all appropriate changes to the alternative technology options which could serve as the basis for the final limitations and to the costs for incremental conventional pollutant removal for each option. The Agency then applied these revised costs to the two-part BCT cost test that was recently promulgated. As a result, no option for any subcategory in the pulp, paper, and paperboard industry passes the BCT cost test. Therefore, BCT effluent limitations guidelines for each subcategory are set equal to BPT effluent limitations guidelines.

Second, on October 29, 1982, EPA proposed BCT limitations for the groundwood-thermo-mechanical subcategory (subpart M) which were more stringent than the BPT limitations for that subcategory. After proposal, EPA assessed the comments on these proposed effluent limitations guidelines and determined that insufficient data are available to calculate costs and pollutant removals for the four candidate BCT technology options. Therefore, the Agency is not issuing nationally-applicable BCT effluent limitations guidelines for the groundwood-thermo-mechanical subcategory at this time. The BCT effluent limitations guidelines were reserved for this subcategory when the final BPT, BAT, NSPS, PSES, and PSNS regulations were issued on November 18, 1982 and will remain reserved at this time. BCT effluent limitations will be developed on a case-by-case basis by Agency and State permit writers, as appropriate.

A minor change in the format of the originally proposed regulations (January 6, 1981) and repropoed BCT effluent limitations guidelines (October 29, 1982) was made when final BPT, BAT, NSPS, PSES, and PSNS were issued on November 18, 1982. This format change consisted of a reassignment of subpart letters and paragraph numerals; no substantive changes to the existing BPT effluent limitations were made (See 47 FR 52007). The subpart letters and paragraph numerals assigned to each subcategory in the final regulations issued on November 18, 1982 are the same used for the BCT effluent limitations promulgated today. These are listed in Section II of this preamble.

Another minor change involves language to clarify the relationship of 40 CFR Part 430, Subpart D and V. Pursuant to the November 18, 1982 final rule for certain effluent limitations guidelines for the pulp and paper industry, EPA determined that a new subcategory, the Unbleached Kraft and Semi-Chemical Subcategory (40 CFR Part 430, Subpart V), should be established to include all mills within the original unbleached kraft-neutral sulfite semi-chemical (cross recovery) subcategory (40 CFR Part 430, Subpart D) and those mills where both the unbleached kraft and another type of semi-chemical pulping process (i.e., green liquor) are used on site. Available data indicate that there are no significant differences in wastewater or conventional pollutant generation at mills where the neutral sulfite semi-chemical pulping process or any other semi-chemical process are used. See *Development Document for*

Effluent Limitations Guidelines and Standards for the Pulp, Paper, and Paperboard and the Builders' Paper and Board Mills Point Source Categories, U.S. EPA, October 1982, pp. 90-92. Accordingly, all effluent limitations guidelines for Subpart D are identical to those in Subpart V.

EPA did not remove Subpart D from the Code of Federal Regulations because of the familiarity of permitting authorities and representatives of affected mills with that subpart. In today's final rule we are adding language in 40 CFR Part 430, Subpart D to clarify that the effluent limitations guidelines under Subpart D are entirely identical to those in Subpart V.

Another change involves the addition of language to five subparts so that all paragraphs in Parts 430 and 431 describing BCT effluent limitations are consistent. BPT regulations for the pulp, paper, and paperboard industry were issued in two phases. The phase II subcategories promulgated on January 6, 1977 (42 FR 1398) specifically addressed the application of BPT limitations to noncontinuous dischargers. The underlying standard for effluent discharges is the same for noncontinuous and continuous dischargers; however, noncontinuous dischargers are only required to meet annual average mass-based effluent limitations rather than be subject to the maximum day or average-of-30-consecutive-days mass-based limitations. The annual average limitations are determined by dividing the average of 30-consecutive-days limitations for BOD₅ and TSS by the appropriate variability factor for each pollutant in each subcategory. Language indicating this procedure is included in the BPT regulations for all Phase II subcategories.

The issue of applying BPT limitations to noncontinuous dischargers was not specifically addressed in the Phase I regulations. Accordingly, the BPT regulations for the Phase I subcategories do not contain language concerning noncontinuous dischargers. Nevertheless, the Agency considers the use of annual average effluent limitations to be the appropriate procedure for BPT/BCT limitations for noncontinuous dischargers in the Phase I subcategories, and in the October 29, 1982 reproposal of the BCT effluent limitations guidelines (47 FR 49176), language specifically addressing noncontinuous dischargers was added for 40 CFR Part 430, Subparts A, B, E, and V. Today's final rule promulgates this language for noncontinuous dischargers for these subparts of 40 CFR

Part 430 and for Subpart A of 40 CFR Part 431. The Agency does not consider the new BCT effluent limitations to be different from the BPT effluent limitations that apply for these subcategories. The language simply codifies our procedure for applying BPT, and now BCT, limitations to noncontinuous dischargers.

VI. Control and Treatment Options and Technology Basis for the Final Regulation

A. Control and Treatment Technologies Applicable to the Pulp, Paper, and Paperboard Industry

In the development of effluent limitations guidelines and standards for the pulp, paper, and paperboard industry, EPA assessed various control and treatment technologies that may be employed to reduce pollutant discharges from this industry. An overview of applicable technologies is presented in section VII of the preamble to the proposed rules for the pulp, paper, and paperboard industry (46 FR 1430, January 6, 1981). Detailed descriptions of these technologies can be found in section VII of the development document supporting the proposed rules (*Development Document for Proposed Effluent Limitations Guidelines, New Source Performance Standards, and Pretreatment Standards for the Pulp, Paper, and the Builders' Paper and Board Mills Point Source Categories*, U.S. EPA, December, 1980).

B. Control and Treatment Technologies Considered

An extensive review of the control and treatment technology alternatives available for application in the pulp, paper, and paperboard industry resulted in the identification of several methods for the control of conventional pollutants beyond the level of control provided by the application of BPT effluent limitations guidelines. Four technology options were considered for the basis of the final BCT effluent limitations. Cost estimates for each option were developed by subcategory, and these cost estimates were assessed in light of the recently-promulgated BCT methodology to determine which options, if any, would pass the cost tests. The four options, which are discussed in detail in section III of the *Final Pulp and Paper BCT Development Document*; are summarized below:

- *Option 1*—Base effluent limitations on the model BPT technology for each subcategory plus additional in-plant production process controls. No additional end-of-pipe technology

beyond BPT is contemplated in this option. Effluent limitations would be based on specific controls that include segregation of non-contact cooling water, use of dry barking operations, collection of spills and leaks for reprocessing, increased efficiency of pulp washing, collection and reuse of paper machine spills, improvement in save-all operation, and effluent recycle-reuse. These controls primarily achieve reductions in water use, wastewater discharge, and BOD₅ raw waste loading. Implementation of these process controls would improve performance of existing primary and secondary biological treatment systems due to the reductions of raw waste loadings.

- *Option 2*—Base effluent limitations on the addition of chemically-assisted clarification of the BPT final effluents for all integrated and secondary fiber subcategories and for the nonintegrated-fine subcategory (for these subcategories, BPT is based on biological treatment). EPA anticipates that additional solids-contact clarifier(s) would be added using alum as a coagulant and polymer as a flocculant aid. For the remaining nonintegrated subcategories, for which primary treatment was the basis of BPT, effluent limitations would be based on the addition of biological treatment.

- *Option 3*—Base effluent limitations on BCT Option 1 plus the addition of chemically-assisted clarification for all integrated and secondary fiber subcategories and for the nonintegrated-fine papers subcategory (for these subcategories BPT is based on biological treatment). EPA expects that additional solids-contact clarifier(s) would be added using alum as a coagulant and polymer as a flocculant aid. For the remaining nonintegrated subcategories, for which primary treatment was the basis of BPT, effluent limitations would be based on the application of Option 1 plus the addition of biological treatment.

- *Option 4*—Base effluent limitations on the levels attained by best performing mills in the respective subcategories. Best mill performance for a subcategory is generally the average performance at all mills where BPT effluent limitations are attained. The technologies for achieving Option 4 effluent limitations vary depending on the type of treatment systems that are employed at mills in each subcategory. Treatment systems commonly employed at mills in the integrated segment, nonintegrated-fine papers, and deink subcategories in which BPT was based on biological treatment include aerated stabilization basins, activated sludge systems, and oxidation ponds.

EPA expects that aerated stabilization basin treatment systems would be upgraded through the addition of spill prevent and control systems, by increasing aeration capacity, and by providing additional settling capacity. For the nonintegrated-fine papers subcategory, the Agency anticipates that equalization would also be provided. Conversion to the extended aeration activated sludge process was considered to be the probable method of upgrading the performance of aerated stabilization basins located in colder climates.

Activated sludge systems would most likely be upgraded through the addition of spill prevention and control systems, by providing equalization, by increasing the capacity of aeration basins and by providing for operation in the contact stabilization mode, and by increasing the size of clarification and sludge-handling equipment. Ponds would probably be upgraded through the addition of rapid sand filtration to remove algae that can contribute to the discharge of large levels of suspended solids.

At mills in the nonintegrated subcategories in which BPT is based or assumed to be based on primary treatment, EPA assumes that existing primary treatment systems would be upgraded by reducing clarifier overflow rates to provide for better settling, by adding chemical coagulants, and by increasing sludge-handling capability.

At best performing mills in the remaining subcategories (paperboard from wastepaper, tissue from wastepaper, wastepaper-molded products, and builders' paper and roofing felt), extensive use is made of production process controls to reduce wastewater discharge. Therefore, Option 4 for these subcategories is based on the application of the same technologies as discussed in BCT Option 1: the technology on which BPT is based plus the application of additional production process controls.

C. Technology Option Costs and Application to the BCT Methodology

For each subcategory, EPA estimated the costs for each of the four alternative technology options. The development of these costs is detailed in section IV of the *Final Pulp and Paper BCT Development Document*. The actual cost estimates for each candidate technology are also presented.

The costs for each technology option are used to determine if the candidate technology option passes the BCT cost test. EPA evaluated the four technology options considered for the pulp, paper, and paperboard industry by applying

the recently promulgated BCT cost test, which consists of two parts: the POTW test and the industry cost-effectiveness test. This methodology is detailed in section II of the BCT Methodology preamble (51 FR 24974).

POTW Test. In general, to "pass" the POTW test, the cost per pound of conventional pollutants removed by industrial dischargers in upgrading from BPT to the candidate BCT level must be less than the cost per pound of conventional pollutants removed in upgrading POTWs from secondary treatment to advanced secondary treatment. For the pulp, paper, and paperboard industry, this upgrade cost must be less than the POTW benchmark of \$0.28 per pound (in first quarter 1978 dollars) based on long-term performance data. (See 51 FR 24974 for a description of the use of long-term performance data where available.)

As discussed in section III, conventional pollutants are defined by the Act to include BOD₅, TSS, fecal coliform, pH and any additional pollutants defined by the Administrator as "conventional" (oil and grease, 44 FR 44501, July 30, 1979). The pollutants included in calculating the POTW pollutant removal are BOD₅ and TSS. These pollutants were also used to calculate the pollutant removal for candidate BCT technology options in the pulp and paper industry. Oil and grease was not included since this conventional pollutant is not generally a concern in the pulp, paper, and paperboard industry. Fecal coliform is also not a general concern for the pulp, paper, and paperboard industries. The pollutant parameter pH is not included in the calculations because control of this pollutant is not measurable as "pounds removed." An acceptable interval for controlling pH is evaluated with respect to the particular processes of a candidate technology. Generally, the acceptable pH interval for BCT will be the same as that for BPT.

Industry Test. Generally, candidate technologies must also "pass" the industry cost-effectiveness test. For each industry subcategory, EPA computes a ratio which is a comparison of two incremental costs. The first is the cost per pound removed by the BCT candidate technology relative to BPT; the second is the cost per pound removed by BPT relative to no treatment (i.e., raw wasteload).

The ratio of the first cost divided by the second is a measure of the candidate technology's cost-effectiveness. The ratio is compared to an industry cost benchmark, which is based on POTW cost and pollutant removal data. If the

industry ratio is lower than the benchmark, the candidate technology passes the industry cost test. The benchmark for the pulp, paper, and paperboard industry, whose ratio is based on long-term performance data, is 1.29.

Application of BCT POTW and Industry Cost Tests. For each subcategory in the pulp, paper, and paperboard industry, EPA applied the costs calculated for each option to the BCT POTW and industry cost test. Results are presented in Table 1.

As shown in Table 1, none of the subcategories in the pulp, paper, and paperboard industry pass both parts of the BCT cost test at any of the four alternative treatment options. Therefore, BCT limitations for each subcategory are set equal to the BPT limitations.

TABLE 1.—SUMMARY OF BCT COST TEST CALCULATIONS FOR PULP, PAPER, AND PAPERBOARD INDUSTRY

[1st Quarter 1978 Dollars]

Subcategory (subpart)	POTW test ¹	Industry cost test ²
Unbleached Kraft (A):		
BPT.....	0.24	
Option 1.....	0.98	4.10
Option 2.....	1.33	5.57
Option 3.....	1.31	5.51
Option 4.....	1.38	5.79
Semi-Chemical (B):		
BPT.....	0.32	
Option 1.....	0.66	2.06
Option 2.....	1.56	4.88
Option 3.....	1.44	4.52
Option 4.....	1.43	4.49
Paperboard from Wastepaper (E):		
BPT.....	0.12	
Option 1.....	1.22	10.50
Option 2.....	4.42	38.22
Option 3.....	2.25	19.42
Option 4.....	1.22	10.50
Dissolving Kraft (F):		
BPT.....	0.11	
Option 1.....	2.07	19.28
Option 2.....	1.32	12.33
Option 3.....	1.39	12.98
Option 4.....	0.63	5.90
Market Bleached Kraft (G):		
BPT.....	0.18	
Option 1.....	0.66	3.71
Option 2.....	1.50	8.41
Option 3.....	1.45	8.10
Option 4.....	1.00	5.59
BCT Bleached Kraft (H):		
BPT.....	0.11	
Option 1.....	1.39	12.75
Option 2.....	1.51	13.88
Option 3.....	1.41	12.99
Option 4.....	1.04	9.51

TABLE 1.—SUMMARY OF BCT COST TEST CALCULATIONS FOR PULP, PAPER, AND PAPERBOARD INDUSTRY—Continued

[1st Quarter 1978 Dollars]

Subcategory (subpart)	POTW test ¹	Industry cost test ²
Alkaline Fine ³ (I,P):		
BPT.....	0.14	
Option 1.....	1.85	13.71
Option 2.....	1.66	12.29
Option 3.....	1.52	11.27
Option 4.....	0.86	6.39
Papergrade Sulfite ⁴ (J,U):		
BPT.....	0.26	
Option 1.....	0.51	1.96
Option 2.....	1.75	6.67
Option 3.....	1.40	5.39
Option 4.....	0.71	2.74
Dissolving Sulfite Pulp (K):		
BPT.....	0.14	
Option 1.....	0.70	4.99
Option 2.....	1.07	7.64
Option 3.....	1.22	8.69
Option 4.....	0.64	4.61
Groundwood-CMN Papers (N):		
BPT.....	0.15	
Option 1.....	0.59	3.88
Option 2.....	2.79	18.47
Option 3.....	1.63	10.78
Option 4.....	1.02	6.73
Groundwood-Fine Papers (O):		
BPT.....	0.15	
Option 1.....	1.05	7.12
Option 2.....	3.01	20.33
Option 3.....	1.86	12.58
Option 4.....	0.99	6.66
Deink (Q):		
BPT.....	0.09	
Option 1.....	0.25	2.78
Option 2.....	1.22	13.83
Option 3.....	0.72	8.17
Option 4.....	0.71	8.07
Nonintegrated Fine Papers (R):		
BPT.....	0.22	
Option 1.....	0.35	1.62
Option 2.....	1.95	9.01
Option 3.....	1.23	5.67
Option 4.....	0.77	3.57
Nonintegrated Tissue Papers (S):		
BPT.....	0.28	
Option 1.....	0.86	3.06
Option 2.....	3.09	11.02
Option 3.....	2.80	9.97
Option 4.....	4.03	14.37
Tissue from Wastepaper (T):		
BPT.....	0.32	
Option 1.....	0.74	2.28
Option 2.....	4.44	13.75
Option 3.....	3.01	9.32
Option 4.....	0.74	2.28

TABLE 1.—SUMMARY OF BCT COST TEST CALCULATIONS FOR PULP, PAPER, AND PAPERBOARD INDUSTRY—Continued

[1st Quarter 1978 Dollars]

Subcategory (subpart)	POTW test ¹	Industry cost test ²
Unbleached Kraft and Semi-Chemical (V):		
BPT.....	0.17	
Option 1.....	0.63	3.73
Option 2.....	1.68	9.99
Option 3.....	1.35	8.02
Option 4.....	0.94	5.59
Wastepaper Molded Products (W):		
BPT.....	1.04	
Option 1.....	1.45	1.40
Option 2.....	9.21	8.88
Option 3.....	2.86	2.75
Option 4.....	1.45	1.40
Nonintegrated Lightweight Papers (X):		
BPT.....	0.34	
Option 1.....	0.98	2.91
Option 2.....	3.16	9.38
Option 3.....	2.81	8.33
Option 4.....	4.12	12.21
Nonintegrated Filter and Nonwoven Papers (Y):		
BPT.....	1.80	
Option 1.....	1.41	0.78
Option 2.....	4.47	2.48
Option 3.....	3.97	2.20
Option 4.....	5.69	3.16
Nonintegrated Paperboard (Z):		
BPT.....	0.35	
Option 1.....	1.79	5.09
Option 2.....	6.83	19.41
Option 3.....	6.17	17.56
Option 4.....	10.09	28.71
Builders' Paper and Roofing Felt (Part 431) Subpart A):		
BPT.....	0.13	
Option 1.....	0.86	6.47
Option 2.....	23.16	173.63
Option 3.....	1.90	14.25
Option 4.....	0.86	6.47

¹ POTW test: Total annual cost per pound removed (BPT to BCT).

Candidate technology passes if POTW test is less than \$0.28 in 1st Quarter 1978 dollars.

² Industry cost test: Total annual cost per pound removed (BPT to BCT) divided by total annual cost per pound removed (raw waste-load to BPT).

Candidate technology passes if industry cost test is less than 1.29.

³ Includes fine bleached-kraft (Subpart I) and soda (Subpart P) subcategories.

⁴ Includes blow pit wash (Subpart J) and drum wash (Subpart U) subcategories.

VII. Economic Considerations

A. Costs and Economic Impact

As shown in section VI above, none of the candidate technologies considered as a basis for BCT effluent limitations guidelines for the pulp, paper, and paperboard industry pass the BCT cost test. Since the BCT effluent limitations guidelines are being set equal to the BPT effluent limitations guidelines for each subcategory, there are no incremental costs associated with these BCT regulations, and no adverse economic impacts will occur.

B. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules are those which impose an annual cost on the economy of \$100 million or more or have certain other economic impacts. This regulation is not considered a major rule because no incremental costs are associated with attainment of BCT limitations and the regulation meets none of the other criteria specified in section I, paragraph (b) of the Executive Order.

C. Regulatory Flexibility Analysis

Pub. L. 96-354 requires EPA to prepare a Regulatory Flexibility Analysis for all regulations that have a significant impact on a substantial number of small entities. Since no economic impacts are anticipated to result from the final BCT effluent limitations, a formal Regulatory Flexibility Analysis is not required.

VIII. Non-Water Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Section 304(b) and 306 of the Act require EPA to consider the non-water quality environmental impacts (including energy requirements) of certain regulations. Since the final BCT effluent limitations promulgated today for the pulp, paper, and paperboard industry to not require any incremental conventional pollutant removal beyond the BPT level, no additional non-water quality impacts (including air pollution, solid waste generation, and energy requirements) are expected.

IX. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations guidelines and standards during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is an unintentional noncompliance occurring

for reasons beyond the reasonable control of the permittee. Industry argues that an upset provision in EPA's effluent limitations guidelines is necessary because such upsets inevitably occur even in properly operated control equipment. Because technology-based effluent limitations guidelines require only what technology can achieve, they claim that liability for such situations is improper. When confronted with this issue, courts have been divided on the question of whether an explicit upset or excursion incident may be handled through EPA's exercise of enforcement discretion. Compare, *Marathon Oil Co. v. EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011 (D.C. Cir. 1978) and *Corn Refiners Association, Inc. v. Costle*, 594 F.2d 1223 (8th Cir. 1979.) See also, *American Petroleum Institute v. EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc. v. Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp. v. Train*, 539 F.2d 973 (4th Cir. 1976).

While an upset is an unintentional episode during which effluent limitations are exceeded, a bypass is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. Bypass provisions have, in the past, been included in NPDES permits.

EPA has determined that both upset and by-pass provisions should be included in NPDES permits and has promulgated NPDES regulations that include such permit provisions (40 CFR 122.41). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations guidelines. The bypass provision authorizes bypassing to prevent loss of life, personal injury or severe property damage. Permittees in the pulp, paper, and paperboard industry are entitled to upset and bypass provisions in NPDES permits, and this final regulation does not affect the applicability of such provisions.

X. Variances and Modifications

These BCT effluent limitations guidelines must generally be applied in all Federal and State NPDES permits issued to direct dischargers in the pulp, paper, and paperboard industry.

The only exception to the binding limitations is EPA's "fundamentally different factors" variance (see *E.I. duPont de Nemours and Co. v. Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co. v. Costle*, supra). This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. This variance clause is

included in the NPDES regulations and is cross referenced in the specific pulp, paper, and paperboard industry regulations (see the NPDES regulations at 40 CFR Part 125, Subpart D).

XI. Relationship to NPDES Permits

This regulation does not restrict the power of any permit-issuing authority to act in a manner that is consistent with EPA regulations, guidelines, or policy. For example, the fact that this regulation does not control a particular pollutant does not preclude the permit issuer from limiting such pollutants on a case-by-case basis when necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of state or Federal law require limitation of pollutants not covered by this regulation (or require more stringent effluent limitations on covered pollutants), the permit-issuing authority must apply such effluent limitations.

One additional topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which have been considered in developing this regulation. The Agency wishes to emphasize that, although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary (*Sierra Club v. Train*, 557 F.2d 485 (5th Cir. 1977)). EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good faith compliance efforts.

XII. Public Participation and Response to Major Comments

Individual pulp, paper, and paperboard facilities and trade associations have participated in the development of this regulation. Following the publication of proposed rules on January 6, 1981 and October 29, 1982 in the *Federal Register*, the technical Development Document, the economic impact analysis, and supporting record materials were made available for public review.

Since proposal, the Agency has received many comments on its technical analysis for BCT effluent limitations in this industry. All comments received have been considered carefully, and appropriate changes in the regulations have been made where data and information supported those changes. All comments received are included in the public record for this rulemaking. A summary of the comments and the responses to these comments is presented in a document entitled "Summary of

Comments and Responses on the Proposed BCT Effluent Limitation Guidelines for the Pulp, Paper, and Paperboard Industry" hereafter referred to as the "Comments and Responses" document. A summary of the Agency's responses to major comments not covered in other sections of this preamble appears below.

1. *Comment:* Permit writers should continue to have maximum flexibility to: (1) Account for site specific conditions, (2) assure water quality protection, and (3) avoid excessively stringent permit conditions.

Response: As explained in Sections XI and XII of this preamble, the promulgated limitations will be applied to individual pulp, paper, and paperboard facilities through NPDES permits issued by EPA or approved State agencies. However, the promulgation of these limitations does not prevent the permitting authority from imposing more stringent limitations on a case-by-case basis using best professional judgment when such limitations are necessary to protect water quality and carry out the purposes of the Clean Water Act.

2. *Comment:* In its cost analyses, EPA should have used actual mill costs for BPT. The industry cost ratio is incorrect if the BPT cost is understated.

Response: EPA obtained some actual cost information as part of its 308 questionnaire data gathering activities in 1976. However, in many cases, the data were not complete, were estimates only, or were unsupported. Therefore, to develop representative costs for the whole industry, EPA used a model mill approach which is explained in Section IV of the *Final Pulp and Paper BCT Development Document*.

3. *Comment:* EPA's general methodology for determining costs is flawed. Specific examples given include: (1) Basing costs on a facility constructed in a moderate climate only, (2) not incorporating geographical cost adjustment factors, and (3) underestimating energy costs. Also, EPA fails to state the acceptable confidence interval for BCT costs.

Response: EPA reviewed all comments on the cost methodology and made all appropriate changes. In response to the specific comments listed above: (1) EPA assessed costs associated with various climates and determined that the costs estimated for moderate climates can be appropriately applied in the BCT costing methodology. Climate is a factor only in the initial choice of the type of biological treatment system, and the BCT option costs are based only on upgrading the existing biological treatment systems.

(2) EPA has determined that geographical cost adjustment factors do not significantly impact the total cost; however, cost adjustment factors are presented in the *Final Pulp and Paper BCT Development Document* for informational purposes; (3) EPA has reviewed national energy costs and has determined that the energy cost of \$0.0325/kWh is an appropriate estimate for us in the BCT costing methodology. Finally, EPA's costs are pre-engineering cost estimates and are expected to have a variability on the order of plus or minus 30 percent when applied to individual mill situations.

4. *Comment:* Raw waste loads for the unbleached kraft and semi-chemical, dissolving sulfite pulp, papergrade sulfite, nonintegrated segment, and secondary fibers segment subcategories are incorrect.

Response: EPA reviewed all comments on raw waste loads and reassessed its analysis before promulgation of the BCT effluent limitations. All appropriate changes were made and are specifically explained in the "Comments and Responses" document.

5. *Comment:* Raw waste load control measures can not be applied in a universal manner nor can they achieve the same reductions at different mills. Reuse and recycle of process streams may be constrained because of materials of construction, heat buildup, inherent process configuration and capacity, and existing load reduction practices. Specific examples are given to substantiate claims that EPA has overestimated the flow and raw waste load reduction from BPT to BCT Option 1: (1) Reusing relief and flow condensates will not destroy BOD₅, but would require steam distillation at a considerable cost; (2) TSS is a function of BOD₅ reduction, not BOD₅ influent levels. Thus, at a constant BOD₅ reduction, final TSS levels should not change.

Response: The Agency recognizes the difficulty in predicting the benefits derived from individual process controls, and, for this reason, based BCT Option 1 raw waste loads on actual mill data whenever sufficient data were available. Sufficient data were not available for the dissolving kraft, dissolving sulfite, and groundwood CMN subcategories, however, and, as a result, Option 1 raw waste loads were based on the reductions in flow and BOD₅ that were predicted from the application of the BCT Option 1 process controls.

The Agency has completed an extensive review of mill data to ensure that the estimated effluent reductions

from each process control for each subcategory were reasonable. In addition, the Agency reviewed available sources of information to assure that the process controls were suitable for use in the various subcategories and that the combination of controls would obtain the reductions in waste loads predicted for each subcategory. Revisions in the applicability of the process controls and the resulting effluent reductions were made as required. As shown in the Record, EPA performed mass balance calculations to show that if all controls were employed, a mill could meet the reduced levels.

The Agency has compared the raw waste loads determined by the general methodology (average of flows less than the BPT flow and average of BOD₅ levels less than BPT raw waste BOD₅ for most subcategories) with the raw waste loads predicted from the application of BCT Option 1 process controls. The raw waste loads determined by these two methods are comparable in all cases.

The Agency has reviewed BPT and suggested BCT Option 1 process controls, and believes that, if the Option 1 controls are added to a mill that has BPT controls and has a well-operated BCT treatment system in place, the mill can attain the BPT Option 1 effluent levels. The costs of attaining BCT Option 1 limitations are based on model mills for each subcategory assuming that all mills are now meeting BPT limitations.

As explained above, the estimated reductions that can be obtained for each internal control have been reviewed and corrected as necessary. Some examples of EPA's reassessment are:

(1) The reuse of relief and blow condensates has been deleted as an Option 1 internal process control because its use may lead to air quality problems.

(2) The TSS final effluent regression equation is an empirical relationship between influent BOD₅ concentration and TSS final effluent concentration. Although the percentage BOD₅ reduction remains nearly constant in a biosystem after application of flow and BOD₅ reducing process controls, the pounds of BOD₅ removed per ton are decreased by the process controls and the TSS is therefore reduced. The regression equation correctly predicts this within a reasonable degree of certainty.

6. *Comment:* EPA's cost estimates for Option 1 internal controls are underestimated for: (1) Deink mills, (2) unbleached kraft and semi-chemical

mills, and (3) papergrade sulfite pulp mills.

Response: EPA has reviewed the cost estimates for all Option 1 internal controls. In response to the above comments:

(1) EPA has revised the costs for Option 1 controls for deink mills. The Agency added recycle as an Option 1 control for this subcategory and made corresponding changes to the attainable BCT Option 1 final effluent levels.

(2) EPA has reviewed the process controls applicable to the unbleached kraft, semi-chemical, and the unbleached kraft and semi-chemical subcategories. Reuse of condensates has been deleted, the costs of additional brown stock washers have been recalculated, and the costs of buildings and other ancillary equipment have been included.

(3) EPA has derived equations for BPT effluent levels based on the percent sulfite pulp produced at each mill and has determined mill specific levels representative of BPT. BCT Option 1 costs were revised as appropriate.

7. *Comment:* Chemically assisted clarification (CAC) is not an acceptably demonstrated technology nor can it be achieved at the stated costs. Further, the estimated TSS performance levels for Options 2 and 3 are unrealistic. Bench scale tests indicate that CAC will not achieve 15 mg/l TSS.

Response: EPA has revised its assessment of CAC based on additional data submitted by commenters. On the basis of these new data, long-term average TSS performance levels for Options 2 and 3 have been revised from 15 to 25 mg/l.

8. *Comment:* EPA's use of the BOD₅ reduction equation (derived when BPT effluent limitations were developed) to determine best performers in the unbleached kraft, semi-chemical, and unbleached kraft and semi-chemical subcategories is invalid.

Response: EPA reviewed all claims made by commenters concerning the BOD₅ reduction equation used for these subcategories. Using additional data representative of these subcategories yields a reduction equation very similar to the one derived at BPT promulgation. The Agency has determined that this equation is applicable to these subcategories and that its use is appropriate to determine the comparison effluent levels (used in place of BPT effluent levels) to identify best performers in these subcategories. Details of the Agency's analysis are explained in the "Comments and Responses" document.

9. *Comment:* EPA should base BCT Option 4 performance on the Discharge

Monitoring Report (DMR) data used in the development of final BPT and NSPS issued in November 1982. Deletions of data should be explained.

Response: EPA is basing the BCT Option 4 technology on the most recent and complete DMR data available. The rationale for all data deletions is presented in the administrative record.

10. *Comment:* EPA's approach for establishing BCT Option 4 performance levels for the dissolving sulfite pulp subcategory is incorrect because the Agency transferred technology from the papergrade sulfite pulp subcategory. BCT Option 4 costs for these subcategories are understated.

Response: EPA assessed the claims made by commenters and determined that it is appropriate to transfer technology from the best performing mills in the papergrade sulfite pulp subcategory. There are no data available for mills in the dissolving sulfite pulp subcategory employing treatment systems representative of BPT, the technologies used in the papergrade sulfite pulp subcategory are similar to those that would be employed in the dissolving sulfite pulp subcategory, and the technologies can be readily transferred from the papergrade sulfite pulp subcategory to the dissolving sulfite pulp subcategory because both subcategories have similar processes and products. Therefore, the Agency determined that it is appropriate to use data from mills in the papergrade sulfite pulp subcategory employing BPT treatment systems to develop performance levels for the dissolving sulfite pulp subcategory (see *Tanners' Council of America v. Train*, 540 F.2d 1188, Fourth Circuit, 1976). EPA reviewed the BCT Option 4 cost analysis for these subcategories and altered its methodology. As a result, the cost effectiveness ratio is similar to that predicted by the commenter. Details of the Agency's analysis are explained in the "Comments and Responses" document.

11. *Comment:* Costs calculated for BCT Option 4 are understated for: (1) Dissolving kraft mills due to underestimated energy costs and the omission of foam control costs; (2) unbleached kraft and semi-chemical mills because EPA did not consider all factors; (3) paperboard from wastepaper mills; and (4) dissolving sulfite pulp and papergrade sulfite pulp mills due to underestimated sludge disposal costs.

Response: EPA reviewed all BCT Option 4 costs and made all appropriate revisions. Details are presented in the "Comments and Responses" document and in the administrative record. In response to specific comments: (1) EPA

reviewed energy costs for the dissolving kraft subcategory and determined that these costs are correct. EPA agrees with the commenter that foam control costs for this subcategory were not included in the BCT Option 4 costs. These costs have been considered in the final rulemaking; (2) Each factor cited by the commenters as having been ignored by EPA in developing BCT Option 4 costs for the unbleached kraft and semi-chemical subcategories was included in EPA's cost development, as shown in the administrative record; (3) EPA altered its BCT Option 4 methodology for the paperboard from wastepaper subcategory and used the BCT Option 1 methodology. Also, EPA reviewed the record for the BPT rulemaking and determined that the costs of BPT were overstated. The Agency reassessed its methodology and lowered the BPT costs because too many internal controls were included. These controls are now considered BCT technologies, therefore the costs of these controls were added to the previous BPT estimates. As a result, the costs for BCT Option 4 for this subcategory increased; and (4) The Agency reassessed its sludge disposal costs and made all appropriate revisions based on available data. However, no sludge dewatering or sludge disposal cost information was submitted by the commenters to support the claims that dissolving sulfite pulp and papergrade sulfite pulp Option 4 costs were underestimated.

12. *Comment:* EPA should clarify the definition of each subcategory in the appropriate subpart of the regulations so that permit writers and industry will not be confused in later years when supporting material is unavailable.

Response: The Agency believes that the definition of each subcategory as defined in the November 1982 final rules and in the development document supporting that rule adequately characterizes each subcategory in the pulp, paper, and paperboard industry. It is unnecessary to include any more specific definition in the regulation because permit writers will continue to use the supporting materials in the future when making permit decisions. All development documents supporting pulp, paper, and paperboard industry regulations are important tools for both permit writers and industry representatives and will be available at all times.

13. *Comment:* EPA neglected to incorporate the Fundamentally Different Factors (FDF) variance citation, 40 CFR 125.30-125.32, in the BCT guidelines published on October 29, 1982 for Subparts J, M, U, V, and W. Since EPA

has acknowledged that the FDF variance is available for all limits under sections 301 and 304 of the Clean Water Act, reference to §§ 125.30-125.32 must be included in the BCT regulations for the subparts mentioned above.

Response: The fundamentally different factors variance is independently available to all facilities covered by effluent guidelines by the terms of the regulations at 40 CFR 125.30-125.32. However, to avoid any confusion, EPA has made the appropriate changes to the pulp and paper BCT effluent guidelines.

14. **Comment:** Option 4 costs are underestimated for the papergrade sulfite subcategories because the BPT starting point levels were overestimated. The Agency used the flow versus percent sulfite equation; however, the correct starting point is the Option 4 formula where BOD5 and TSS are related to percent sulfite produced on-site.

Response: The Agency has reviewed and altered its methodology for the papergrade sulfite subcategories. As a result, EPA used the formula relating BOD5 and TSS to percent sulfite produced on-site to identify the best performers in the papergrade sulfite pulp subcategory. EPA also determined the BPT starting point levels as a function of percent sulfite produced on-site. The Agency has now correctly determined the Option 4 removals. The current BCT cost effectiveness ratio is similar to that predicted by the commenter.

XIII. Availability of Technical Information

The major documents on which this regulation is based are: (1) *Development Document for Best Conventional Pollutant Control Technology Effluent Limitations Guidelines for the Pulp, Paper, and Paperboard and the Builders' Paper and Board Mills Point Source Categories* (U.S. EPA, Washington, DC, August 1986), and (2) *Summary of Comments and Responses on the Proposed BCT Effluent Limitations Guidelines for the Pulp, Paper, and Paperboard Industry*.

On January 16, 1987, (30 days after publication in the **Federal Register**), copies of the technical Development Document will be available for public review in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, DC. On January 16, 1987 (30 days after publication in the **Federal Register**), the complete Record, including the Agency's responses to comments on the proposed regulation, will be available for review at the Public Information Reference Unit. The EPA

information regulation (40 CFR Part 2) allows the Agency to charge a reasonable fee for copying.

Copies of the technical Development Document may also be obtained from the National Technical Information Service (NTIS), Springfield, Virginia 22161 (703/487-6000). A notice will be published in the **Federal Register** announcing the availability of these documents from NTIS. (This should occur within 60 days of publication of this regulation.)

XIV. Office of Management and Budget (OMB) Review

This regulation was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291. Written comments made by OMB are in the record for this final rulemaking.

List of Subjects in 40 CFR Parts 430 and 431

Paper and paper products industry, Water pollution control, Waste treatment and disposal.

Dated: December 5, 1986.

Lee M. Thomas,
Administrator.

XV—Appendix A

Abbreviations, Acronyms, and Other Terms Used in this Notice

- Act—The Clean Water Act.
- Agency—The U.S. Environmental Protection Agency.
- BAT—The best available technology economically achievable, under section 304(b)(2)(B) of the Act.
- BCT—The best conventional pollutant control technology, under section 304(b)(4) of the Act.
- BPT—The best practicable control technology currently available, under section 304(b)(1) of the Act.
- Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et seq.), as amended by the Clean Water Act of 1977 (Public Law 95-217).
- Direct Discharger—A facility where wastewaters are discharged or may be discharged into waters of the United States.
- Indirect Discharger—A facility where wastewaters are discharged or may be discharged into a publicly owned treatment works.

New Sources—Industrial facilities which are "new sources" under the definition in section 306 of the Act.

NPDES Permit—A National Pollutant Discharge Elimination System permit issued under section 402 of the Act.

NSPS—New source performance standards, under section 306 of the Act.

POTW or POTWs—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges, under section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of indirect discharges, under section 307(c) of the Act.

RCRA—Resource Conservation and Recovery Act (Public Law 94-580) of 1976, as amended, 42 U.S.C. 6901 et seq.

For the reasons set out in the preamble, 40 CFR Part 430 is amended as follows:

PART 430—PULP, PAPER, AND PAPERBOARD POINT SOURCE CATEGORY

1. The authority citation for Part 430 continues to read as follows:

Authority: Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c) and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) or the "Act"; 33 U.S.C., 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c) and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

2. Sections 430.63, 430.73, 430.83, 430.93, 430.103, 430.113, 430.143, 430.153, 430.163, 430.173, 430.183, 430.193, 430.203, 430.213, 430.233, 430.243, 430.253, and 430.263 are revised. The text of each section is identical except for the section number in the heading and the section number referenced at the end of the section. The text of the sections is set out only once. Within the text are two blank spaces, one designated (a) and one designated (b). In the table preceding the text, column (a) indicates the section number to be added to the section heading for the respective subparts of Part 430. Column (b) indicates the section number to be added to the text of the section indicated in column (a).

Subpart	Section Number to be added to section heading	Section Number to be added to text of the section in (a)
	(a)	(b)
F—Dissolving Kraft Subcategory.....	430.63	430.62
G—Market Bleach Kraft Subcategory.....	430.73	430.72
H—BCT Bleached Kraft Subcategory.....	430.83	430.82
I—Fine Bleached Kraft Subcategory.....	430.93	430.92
J—Papergrade Sulfite (Blow Pit Wash) Subcategory.....	430.103	430.102
K—Dissolving Sulfite Pulp Subcategory.....	430.113	430.112
N—Groundwood—CMN Papers Subcategory.....	430.143	430.142
O—Groundwood—Fine Papers Subcategory.....	430.153	430.152

Subpart	Section Number to be added to section heading	Section Number to be added to text of the section in (a)
	(a)	(b)
P—Soda Subcategory.....	430.163	430.162
Q—Deink Subcategory.....	430.173	430.172
R—Nonintegrated—Fine Papers Subcategory.....	430.183	430.182
S—Nonintegrated—Tissue Papers Subcategory.....	430.193	430.192
T—Tissue from Wastepaper Subcategory.....	430.203	430.202
U—Papergrade Sulfite (Drum Wash) Subcategory.....	430.213	430.212
W—Wastepaper—Molded Products Subcategory.....	430.233	430.232
X—Nonintegrated—Lightweight Papers Subcategory.....	430.243	430.242
Y—Nonintegrated Filter and Nonwoven Papers Subcategory.....	430.253	430.252
Z—Nonintegrated—Paperboard Subcategory.....	430.263	430.262

§ 430.13 (a) Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The limitations shall be the same as those specified for conventional pollutants (which are defined in § 401.16) in § 430.22 of this subpart for the best practicable control technology currently available (BPT).

3. Section 430.13 is amended by adding text to read as follows:

§ 430.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The limitations shall be the same as those specified for conventional pollutants (which are defined in § 401.16) in § 430.12 of this subpart for the best practicable control technology currently available (BPT), except that non-continuous dischargers shall not be subject to the maximum day and average-of-30-consecutive-days limitations, but shall be subject to annual average effluent limitations determined by dividing the average-of-30-consecutive-days limitations for BOD₅ by 1.50 and TSS by 1.67.

4. Section 430.23 is amended by adding text to read as follows:

§ 430.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The limitations shall be the same as those specified for conventional pollutants (which are defined in § 401.16) in § 430.22 of this subpart for the best practicable control technology currently available (BPT), except that non-continuous dischargers shall not be subject to the maximum day and average-of-30-consecutive-days limitations, but shall be subject to annual average effluent limitations determined by dividing the average-of-30-consecutive-days limitations for BOD₅ by 1.36 and TSS by 1.36.

5. Section 430.43 is amended by adding text to read as follows:

§ 430.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

BCT effluent limitations for unbleached kraft-neutral sulfite semi-chemical (cross recovery) mills are presented in Subpart V.

6. Section 430.53 is amended by adding text to read as follows:

§ 430.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The

limitations shall be the same as those specified for conventional pollutants (which are defined in § 401.16) in § 430.52 of this subpart for the best practicable control technology currently available (BPT), except that non-continuous dischargers shall not be subject to the maximum day and average-of-30-consecutive-days limitations, but shall be subject to annual average effluent limitations determined by dividing the average-of-30-consecutive-days limitations for BOD₅ by 1.77 and TSS by 2.18.

7. Section 430.223 is amended by adding text to read as follows:

§ 430.223 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

Pollutant or pollutant property	Maximum for any one day ¹	Average of daily values for 30 consecutive days
BOD ₅	8.0	4.0
TSS.....	12.5	6.25
pH.....	(*)	(*)

¹ Kg/kg (or pounds per 1,000 lb of product).
* Within the range of 6.0 to 9.0 at all times.

Non-continuous dischargers shall not be subject to the maximum day and average-of-30-consecutive-days limitations, but shall be subject to annual average effluent limitations determined by dividing the average-of-30-consecutive-days limitations for BOD₅ by 1.36 and TSS by 1.75.

For the reasons set out in the preamble, 40 CFR Part 431 is amended as follows:

PART 431—THE BUILDERS' PAPER AND BOARD MILLS POINT SOURCE CATEGORY

1. The authority citation for part 431 continues to read as follows:

Authority: Secs. 301, 304(b), (c), (e), and (g), 306(b) and (c), 307(b) and (c) and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) or the "Act", 33 U.S.C., 1311, 1314(b), (c), (e), and (g), 1316(b) and (c), 1317(b) and (c); and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

2. Section 431.13 is amended by adding text to read as follows:

§ 431.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in § 125.30-32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable

by the application of the best conventional pollutant control technology (BCT): The limitations shall be the same as those specified for conventional pollutants (which are defined in § 401.16) in § 431.12 of this subpart for the best practicable control technology currently available (BPT), except that noncontinuous dischargers

shall not be subject to the maximum day and average-of-30-consecutive-days limitations, but shall be subject to annual average effluent limitations determined by dividing the average-of-30-consecutive-days limitations for BOD₅ by 1.90 and TSS by 1.90.

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