processes they will need to meet their long-term Advanced Technology objectives. Therefore, EPA has decided to promulgate all of the Voluntary Advanced Technology BAT limitations today in order to provide mills with an opportunity to push their environmental performance beyond the minimum prescribed by the baseline BAT and on toward the statutory goal of zero discharge. Promulgating the various Voluntary Advanced Technology Tiers today rather than in five-year increments also provides some predictability regarding the progress expected of Advanced Technology mills over time. EPA hopes that this predictability will encourage greater participation in the program and thus lead to superior effluent quality. Finally, promulgating all three Tiers of Advanced Technology BAT Limitations today makes sense because it reflects EPA's regulatory approach for promoting successively greater environmental achievements for this industry, and because companies willing to commit to achieve the increased environmental controls will be able to avoid the uncertainties inherent in a succession of later rulemakings.

EPA has the authority to promulgate the three Tiers of Voluntary Advanced Technology BAT limitations today even though their ultimate performance requirements will not be attained until a future date. EPA has the authority under CWA section 304(b)(2) and 304(m) to revise the baseline BAT limitations for the Bleached Papergrade Kraft and Soda subcategory whenever the Administrator deems it is appropriate. Thus, EPA would be free in 5, 10 or 15 years to codify the Voluntary Advanced Technology limitations as BAT. However, by then, mills potentially interested in pursuing Advanced Technologies would already have been required to meet baseline BAT limitations, perhaps using technologies not fully compatible with more advanced processes. The costs of retrofitting, or in some cases replacing, newly installed process technologies to achieve more stringent limits might prevent EPA from finding that these technologies are economically achievable. In addition, participating mills would lose a long-term planning horizon, which is very important because of the significant capital outlays involved. As a result, EPA was concerned that failure to promulgate these Voluntary Advanced Technology BAT limitations today might compromise future pollution prevention opportunities. EPA is authorized to consider those opportunities when promulgating BAT limitations. EPA therefore believes it is appropriate to consider these barriers to pollution prevention as factors relevant to the definition of BAT limitations and the timing of their promulgation, see CWA section 304(b)(2)(B); especially since failure to promulgate a Voluntary Advanced Technology Incentives Program at this time might impede reasonable further progress toward the national goal of eliminating discharges of all pollutants. *See* CWA section 301(b)(2).

An important component of this incentives program is the element of choice. Direct discharging mills subject to Subpart B may choose whether to enroll in the program and, once enrolled, may choose the Tier, or performance level, that they will achieve. In order to codify this structure, EPA has promulgated three sets of Voluntary Advanced Technology BAT limitations for bleached papergrade kraft and soda mills and two sets of NSPS in addition to the baseline BAT and NSPS. In effect, EPA has divided Subpart B into segments based on the types of bleach plant processes mills choose to employ. EPA has considerable authority to establish segments within an industrial subcategory for the purpose of promulgating BAT limitations unique to those mills. Much like mill-specific variances based on fundamentally different factors, segments reflect EPA's authority to take into account the diversity within each industry. See *Chemical Mrfs. Ass'n* v. *NRDC,* 470 U.S. 116, 130, 105 S.Ct 1102, 1110 (1985). Thus, segmentation, like variances, is not an exception to the standard-setting process, but rather a more fine-tuned application of it. *Id.*

For BAT, EPA has essentially established four segments for the Bleached Papergrade Kraft and Soda subcategory (and, similarly, three segments for NSPS). One segment codifies the baseline BAT limitations; the other three segments codify Tiers I, II and III of the Voluntary Advanced Technology BAT Incentives Program. EPA defined the Advanced Technology segments to reflect the various types of process changes and control techniques that mills might employ to achieve environmental performance beyond the baseline BAT level. The Advanced Technology segments also reflect the cost of achieving progressively greater environmental effluent reductions. Any one of those factors is sufficient under CWA section 304(b)(2) to justify a segment for affected mills. Each mill in Subpart B must comply with the baseline BAT limitations unless it designates itself as an Advanced Technology mill, in which case it must meet the BAT limitations corresponding to the Tier—and segment—it chooses.

Although EPA has identified an array of process changes that, if employed, could distinguish one Subpart B mill from another and has based its Advanced Technology limitations on those potential changes, EPA has made the Advanced Technology segments voluntary. This is because the decision whether Advanced Technology process changes are technically feasible and economically achievable for a particular mill depends on many factors unique to that mill that EPA, on the record available today, cannot readily discern or forecast. Among the more significant factors appear to be the mill's current bleaching sequence, the physical configuration of equipment, the age of equipment (and, thus, end-of-life issues), the available capacity in chlorine dioxide generation and in the recovery boiler, and whether the mill uses hardwood or softwood. See DCN 14488. *See* also Paper Task Force, Technical Supplement White Papers, Record section 20.2.8, DCN 14794, DCN 14795, and DCN 14796.

EPA also has important policy reasons for making the Advanced Technology BAT limitations voluntary, both in terms of the decision to participate and in terms of the level of environmental performance to be achieved. As discussed in greater detail above, EPA believes that mills willing and able to employ technologies and processes superior to the ''baseline'' promulgated as BAT—and willing to guarantee that effort in the form of enforceable technology-based permit limitations—should have the opportunity to do so. By giving mills a choice to exceed baseline compliance levels, EPA implements CWA section 301(b)(2)'s direction that BAT limitations ''result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants,'' to the extent consistent with EPA's findings of economic achievability, among other factors. By allowing mills to choose between baseline BAT limitations and Voluntary Advanced Technology BAT limitations at the outset, EPA also wants to encourage mills to consider all possible process configurations before investing in the baseline BAT technology. Thus, by codifying multiple expressions of BAT, EPA has established a regulatory mechanism that allows mills to choose greater environmental performance than EPA could require on this record and also authorizes permit writers to

memorialize that choice in the form of enforceable permit limits.

Although applied here for the first time to codify a Voluntary Advanced Technology Incentives Program, the notion of using segmentation to determine applicable technology-based limitations is not new. Indeed, effluent limitations guidelines and standards routinely base applicability of technology-based limitations on a discharger's particular process or treatment technologies. For example, elsewhere in today's rule EPA is segmenting the Papergrade Sulfite subcategory to reflect, among other things, the type of product the mill produces. Thus, a papergrade sulfite mill choosing to produce specialty products subjects itself to a different set of limitations than other mills in its subcategory simply by making that business decision. EPA also used segmentation to account for different treatment configurations when it promulgated BAT for the organic chemicals, plastics and synthetic fibers category. *See* 40 CFR 414.91, 414.101; 58 FR 36872, 36881–85 (July 9, 1993). In that rule, EPA established two sets of BAT limitations for a subcategory of plants, one set applicable to plants using end-of-pipe biological treatment and the other set applicable to plants using some other treatment technology, including in-plant waste management practices. In this rule, the Advanced Technology segments are intended to anticipate a mill's business decision to change its cooking, washing, bleaching, wastewater recycle, and recovery processes to achieve greater pollutant reductions than EPA can require as baseline BAT. Indeed, by establishing these segments, EPA hopes to encourage many mills to choose Advanced Technologies, especially those mills that would need to change their bleaching and washing processes in any event to comply with the baseline BAT.

EPA also notes that it could have accomplished the same result for existing sources on a case-by-case basis through the Clean Water Act's variance processes. *See Chemical Mrfs. Ass'n* v. *NRDC,* 470 U.S. at 130, 105 S.Ct at 1110. Advanced Technology mills could have sought fundamentally different factors variances under CWA section 301(n); for non-conventional pollutants, these mills could have pursued a variance under section 301(c). Under either section, mills could have obtained BAT effluent limitations that are more or less stringent than the baseline BAT. *See Chemical Mrfs. Ass'n* v. *NRDC,* 470 U.S. at 116, 105 S.Ct at 1105–06 (FDF variances); *EPA* v. *National Crushed Stone Ass'n,* 449 U.S. 64, 79 n.18 (1980) (§ 301(c) variances). However, EPA rejected implementing the Voluntary Advanced Technology Incentives Program through variances for several reasons. First, the Clean Water Act and its legislative history indicate a clear Congressional preference for the use of subcategories, rather than variances, to address discernible differences among regulated entities. By requiring applications for FDF variances to be based on information submitted during the rulemaking process (unless the applicant lacked a reasonable opportunity to make such submission), *see* section 301(n)(1)(B), Congress stressed the need for companies to participate fully in the guideline development process to assure that adequate information is available to EPA to develop appropriate subcategories. *See* 131 Cong. Rec. S 8013 (June 12, 1985) (Sen. Bentsen); *see also* 133 Cong. Rec. H 131, 136–37 (Jan. 7, 1987) (Rep. Howard) (provision assures that effluent guidelines ''are as comprehensive as possible''); 133 Cong. Rec. S 733, 739 (Jan. 14, 1987) (Sen. Mitchell) (EPA should accommodate fundamental differences among facilities through the establishment of subcategories). In this rulemaking, many commenters supplied vast amounts of information concerning the special circumstances of facilities aspiring to become minimum impact mills. As Congress intended, EPA established the three Voluntary Advanced Technology segments in response to that information rather than deferring consideration of the issue to the post-rulemaking variance process.

Second, as a matter of policy, EPA believes it is reasonable to employ its subcategorization, rather than its variance, authority to implement the Voluntary Advanced Technology Incentives Program. By establishing the Voluntary Advanced Technology BAT limitations by rulemaking at the same time it codifies the baseline BAT limitations, EPA intends to provide all direct discharging mills within Subpart B the immediate opportunity to push beyond base level environmental performance and also to provide with certainty regarding the stringency and timing of the limits they would be expected to meet. In this way, EPA hopes to encourage many mills to participate in the program. Use of case-by-case variance procedures, in contrast, would introduce delay and uncertainty into the process, which EPA believes would discourage industry participation.

In summary, EPA has discretion in determining whether to account for industry characteristics through subcategorization or through the variance process. Like variances, the Voluntary Advanced Technology segments apply only to mills that on their own initiative seek different BAT limitations. Unlike variances, however, the subcategorization scheme promulgated by EPA assures consistent and timely implementation of the Voluntary Advanced Technology Incentives Program, which EPA believes is critical to its success. Therefore, for the reasons explained, EPA's decision to subcategorize Subpart B was rational and within its discretion.

7. Time Frames for Achieving Voluntary Advanced Technology BAT Limitations

In order to promote the pollution prevention objectives of the Voluntary Advanced Technology Incentives Program, EPA has determined that existing mills choosing to participate in that program should receive a reasonable amount of time to achieve the Advanced Tier performance levels they select. See 40 CFR 430.24(b)(4)(ii). (These performance levels are codified in this rule as ''stage 2'' BAT limitations.) The extended timeframes discussed below are not available for new sources enrolled in the Advanced Technology Incentives Program because the Clean Water Act requires new sources to comply with applicable NSPS upon commencing operation. CWA Section 306(e). However, new sources interested in participating in the Voluntary Advanced Technology Incentives Program after commencing operation may nevertheless do so, for example, by achieving the baseline NSPS requirements at the time discharges commence and later installing additional technologies necessary to achieve the more stringent AOX and flow requirements of Tiers II or III. Once limitations equivalent to the selected advanced Tier performance levels are placed in the mill's permit and the mill achieves those limits, it is eligible to receive the regulatory and enforcement relief described as incentives in Section IX.B. below.

EPA has determined that reasonable dates by which existing sources can achieve Advanced Technology performance requirements are *[April 15, 2004]* for Tier I, April 15, 2009 for Tier II, and April 15, 2014 for Tier III. See 40 CFR 430.24(b)(4)(ii). As discussed in more detail below, these dates assume an initial start-up year during which mills subject to Subpart B would decide whether to enroll in the Voluntary Advanced Technology Incentives Program and develop a plan for complying with the ultimate incentives

BAT limitations. The remaining additional time, calculated as 5 years for Tier I, 10 years for Tier II, and 15 years for Tier III, corresponds to the time EPA believes a mill would need in order to arrange its financing and to develop, install, test, and implement the chosen Advanced Technologies at full scale to comply with the ultimate tier limits.

EPA regards five years as a reasonable time frame to achieve the Voluntary Advanced Technology BAT limitations corresponding to Tier I (including the bleach plant BAT effluent limitations). When spread over five years, the capital costs of those technologies become more manageable (although they are still significantly higher than the capital costs associated with the baseline BAT). In addition, the five year period gives mills increased flexibility to schedule the significant capital investment within the mill's normal capital investment cycle, i.e., to purchase and install the necessary equipment when capital is available. Therefore, EPA believes the five year period will enable mills to participate in the Voluntary Advanced Technology Incentives Program that otherwise might not have the financial resources to make the necessary capital investment.

EPA regards ten years as a reasonable timeframe to achieve the Voluntary Advanced Technology BAT limitations corresponding to Tier II because the development and implementation of technologies to reduce bleach plant flow to 10 m^3/kkg pose technical and economic difficulties that EPA believes would take mills up to ten years to resolve. (Once flow levels are reduced, EPA expects that mills also will be able to achieve the Tier II AOX limitations.) Recycling a substantial portion of pulping and evaporator condensates and bleach plant filtrates, with the attendant complexities of total mill water, chemical, and energy balances, requires considerable time before it can be implemented successfully at mill-scale. For example, when bleach plant filtrates are recycled, problems with scale and corrosion can take many months to over a year to develop and be observed. Once identified, fully correcting such problems can take significant additional time because of the time lag between action and observed effect in nearly closed systems. In addition to problems with scale and corrosion, mills pursuing Tier II performance levels may have to solve challenges associated with reusing condensates, such as for bleached pulp washing. There are a few mills currently doing this, but not broad operating experience. Consequently, EPA expects that Tier II mills will need to invest considerable time and effort to research and develop solutions to those technical problems. In addition to these technical challenges, significant capital costs may be involved in achieving Tier II limits, notably as a result of upgrading full pulping and bleaching lines and associated evaporator equipment. Providing an extended timeframe that allows a mill to make such capital expenditures on a schedule consistent with its planned investment cycle can make such large investments economically achievable. For example, one U.S. mill currently approaching the Tier II flow and AOX levels installed many of the relevant technologies in stages over what probably will be a ten-year period, with the last three years used for testing and fine-tuning its reduced flow processes. Yet even this mill still needs to address the technical challenges of further reducing condensate discharge flow before it is fully able to achieve the Tier II BAT limits. That mill needed ten years to plan its multi-hundred million dollar renovation and pollution prevention investment, to arrange appropriate financing, to install supporting technologies at appropriate intervals and to research, develop, test, and refine its innovative flow-reducing processes. EPA believes that this mill's experience is representative of what other Tier II mills may encounter as they work to achieve the Tier II limitations. See the Voluntary Advanced Technology Incentives Program Technical Support Document (DCN 14488) for additional examples of why the ten-year timeframe is appropriate. Based on these experiences, EPA believes that the package of technologies underlying the Tier II Voluntary Advanced Technology BAT limitations will not be technically and economically achievable for mills aspiring to those performance levels until April 15, 2009. However, EPA believes that mills will be able to achieve the baseline BAT limitations by April 15, 2004, and enforceable interim milestones reflecting intermediate levels of flow reduction (determined on a case-by-case basis) in a period shorter than eleven years.

EPA regards 15 years as a reasonable timeframe to achieve the Voluntary Advanced Technology BAT Limitations corresponding to Tier III. As for Tier II, flow reduction again is the most difficult and time-consuming task. However, because reducing flow for pulping and evaporator condensates and bleach plant filtrates to 5 m^3/kkg or even lower approaches a closed mill configuration, even more technically difficult and time-consuming tasks must be successfully completed, necessitating five additional years beyond the Tier II timeframe. For example, mills would probably need to install ''kidney'' technologies to remove metals and chlorides in order to control system scaling and corrosion problems while maintaining product quality and minimizing cross-media impacts. Successful completion of these tasks at individual mills may involve research, extensive process development, and mill trials. The types of corrosion and scaling problems EPA anticipates could take over a year of nearly closed-loop operation to identify and several more years of experimental modifications to mill operations to solve. Extensive time is required for such modifications because of the time lag in nearly closed-mill systems from changing process conditions and observing the steady state impact on hydraulic systems, liquor systems, and associated mill equipment. Mills may also need to embark on process development and mill trials to achieve treated condensate quality that is sufficient to extensively reuse condensates, as well as to reestablish complex mill water and energy balances. For these reasons, EPA believes that 15 years is a reasonable amount of time for a Tier III mill to perfect existing technologies or invent or develop new ones as necessary to achieve the Tier III performance levels. However, EPA believes that all mills will be able to achieve the baseline BAT limitations by *[April 15, 2004],* and enforceable interim milestones reflecting intermediate levels of flow reduction (determined on a case-by-case basis) in a period shorter than 15 years.

In short, EPA believes that the additional 5, 10 and 15 year periods provided by the rule are necessary to foster investment, research, development, and mill trials of Advanced Technologies envisioned by the specified performance levels. EPA further believes that, by the dates specified in the rule, technologies necessary to achieve those performance levels will indeed be available. See DCN 14488.

EPA has concluded that it is reasonable to measure the extended time periods from the publication date of the Cluster Rules rather than from the date a participating mill's NPDES permit is issued, with the addition of one year at the beginning to afford mills a meaningful opportunity to consider participating in the Voluntary Advanced Technology Incentives Program. EPA recognizes that the decision whether to commit to the Advanced Technology goals cannot be undertaken lightly. This is especially so in view of the significant

capital costs involved and in view of possible uncertainties regarding the availability of appropriate cost-effective technologies and a mill's ability to maintain product quality. Accordingly, EPA expects the decision would need to be made at the corporate rather than the facility level, which would probably require corporate-wide consideration of the firm's financial health, its environmental objectives and future marketing strategies, and its overall long-term plans. Because EPA believes that many firms in Subpart B have been pondering these strategic questions since publication of the proposed rule in December 1993 and the notice regarding a possible incentives program in July 1996, EPA has concluded that one year is sufficient to allow firms to make a decision whether to participate in the Voluntary Advanced Technology Incentives Program. If a mill's permit expires and is reissued before April 15, 1999, the permitting authority should incorporate Voluntary Advanced Technology BAT Limitations into that permit at the mill's request. If the mill has not yet decided whether to participate in the Voluntary Advanced Technology Incentives Program, the permit writer should incorporate BAT limitations based on the BAT baseline and should include a reopener clause so that the permit can be modified as necessary to reflect the mill's decision to participate in the incentives program. In order to afford that mill a full year to decide whether to enroll in the incentives program, EPA believes it would be appropriate for the permitting authority to issue a compliance order expiring April 15, 1999 so that the mill would not be required to comply with the baseline BAT limitations until after the election date has passed.

Some commenters suggested that EPA measure the Advanced Technology time periods from the date the first permit reflecting Voluntary Advanced Technology BAT limitations is issued. EPA rejected that approach and instead is measuring the time periods from the publication date of this rule (plus one year) for the following reasons. First, these timeframes reflect EPA's conclusions regarding the amount of time that mills would need in order to achieve the various Voluntary Advanced Technology Tier performance levels, once they have committed to those goals. As discussed in more detail above, EPA based these conclusions on record information concerning the availability of technologies and capital, among other factors. These factors have nothing to do with the permitting cycle. Second, as a matter of policy, EPA wants to promote implementation of advanced technologies as soon as possible; if EPA were to measure the Advanced Technology time periods from the date of permit re-issuance, achievement of the ultimate Tier I performance requirements and the interim baseline BAT limitations for Tiers II and III, for example, could be deferred at some mills by as much as ten years from the date of promulgation. Third, EPA was concerned that tying the Advanced Technology time periods to highly variable permit issuance dates would mean that mills with later permits would realize a competitive advantage over similarly situated mills that, merely because of their particular permit cycle, would need to achieve the Voluntary Advanced Technology BAT limitations sooner. Such inequities—whether perceived or real—could discourage some mills from participating in the Voluntary Advanced Technology Incentives Program. Finally, mills in the Bleached Papergrade Kraft and Soda subcategory have been on notice since at least 1993 that EPA was considering basing some portion of its Cluster Rules on extended delignification technologies. (In its 1993 proposal, EPA proposed to base BAT limitations on a process that included oxygen delignification and 100 percent substitution of chlorine dioxide for elemental chlorine.) In some cases, that proposal has already influenced investment decisions at some mills.

EPA acknowledges that a mill choosing not to participate in the Voluntary Advanced Technology Incentives Program could seek a compliance schedule in an enforcement order that, depending on the date its permit was reissued, could allow that mill to achieve BAT limits (including a less stringent AOX limit) at a later date than Tier I Advanced Technology mills would be required to achieve a more stringent AOX limit *and* reduced kappa numbers and pulping area filtrate recycling. While EPA agrees with comments characterizing this as unfair to those facilities making the significant commitment to install Advanced Technologies, EPA believes that the likelihood of such inequities is small for the following reasons. First, EPA has determined that this is likely to happen in comparatively few cases. More than 80 percent of the permits issued to mills in the Bleached Papergrade Kraft and Soda subcategory will expire before 2000. See Record section 21.8.1, DCN 14652. Consequently, EPA believes that most Advanced Technology mills will receive more time to achieve Tier I limits than other mills would receive to achieve baseline BAT limits, even with an enforcement compliance schedule. Second, when EPA is the permitting authority, EPA will exercise its enforcement discretion to refrain from issuing enforcement compliance schedules after April 15, 1999 to mills not participating in the Voluntary Advanced Technology Incentives Program. This means that a mill not participating in the Voluntary Advanced Technology Incentives Program would be expected to comply with its baseline BAT limits by the date its permit containing those limits is issued, or by *[April 15, 1999],* whichever is later. EPA will also publish guidance urging State enforcement authorities to do the same. By limiting the discretionary enforcement-related compliance schedules available to baseline BAT mills, EPA hopes that the additional time periods specified for Advanced Technology mills will become a more meaningful incentive and perhaps may persuade some mills to participate in the incentives program rather than comply immediately with the baseline BAT limitations.

8. Legal Authority to Promulgate a Package of Progressively More Stringent Voluntary Advanced Technology BAT Limitations

As described in more detail above, the Advanced Technology BAT guidelines for each Tier consists of a range of successively more stringent limitations and permit conditions that represent a mill's progress toward the Tier's ultimate Advanced Technology performance requirements. Based on its analysis of today's advanced and, in some cases, innovative technologies and its judgment regarding the historically rapid advance of pollution prevention processes in this industry, EPA has determined that those performance requirements are achievable, as a technical matter, by the dates specified in each Tier, and that none of the other statutory factors in CWA Section 304(b)(2)(B) justify selecting different technology bases for Advanced Technology BAT. EPA has also determined that those Advanced Technology performance requirements are within the economic capability of mills choosing today to meet them and hence are economically achievable for those mills. EPA bases that determination primarily on two factors. First, no mill is compelled to enroll in the Voluntary Advanced Technology Incentives Program; accordingly, EPA assumes that mills that choose to enroll—and voluntarily subject themselves to a progression of

successively more stringent, enforceable permit limits—do so with the knowledge that they have the economic as well as technical ability to meet those limits. Second, the experience of other mills that voluntarily undertook major pollution prevention projects informs EPA that the ambitious performance requirements are indeed achievable for participating mills if the incremental improvements are staggered over time.

This incremental approach is authorized by CWA section 301(b)(2)(A), which expressly requires BAT to result in reasonable further progress toward the national goal of eliminating pollutant discharges. EPA believes that each of the steps comprising the three tiers of Voluntary Advanced Technology BAT Limitations moves participating mills toward that national goal. Once a mill enrolls in the Voluntary Advanced Technology Incentives Program, it accepts and must begin immediately to implement a BAT package consisting of successively more stringent permit limits and conditions. Although environmental improvements are realized only incrementally, the mill is subject to the total set of limits—including the ultimate performance requirements—as soon as its Advanced Technology permit is written based on the first increment of that BAT package. Thus, the mill is continuously subject to and must comply immediately with the Advanced Technology BAT package as it progressively unfolds, including each interim BAT limitation or permit condition representing that progress.

EPA's promulgation of BAT as a package of progressively more stringent limitations and conditions is also consistent with the use of BAT as a ''beacon to show what is possible.'' *Kennecott* v. *EPA,* 780 F.2d 445, 448 (4th Cir. 1985). Thus, while the compulsory BAT in this rule functions as the ''base level'' for the subcategory as a whole, *see E.I. du Pont de Nemours & Co.* v. *Train,* 430 U.S. 112, 129 (1977), EPA expects the Voluntary Advanced Technology BAT limitations to drive technologies and mills beyond that base level toward achievement of the goals of the Clean Water Act. By holding out the Advanced Technologies as beacons of progress, EPA believes that today's rule will encourage more mills to strive toward EPA's pollution prevention and reduced flow objectives than might otherwise do so if EPA promulgated nothing more than a ''base level'' BAT. Moreover, by codifying progressively more stringent limitations in today's Advanced Technology BAT package, EPA promotes a form of technological progress that is consistent with Congressional intent that BAT should aspire to ''increasingly higher levels of control.'' *See, e.g.,* Statement of Sen. Muskie (Oct. 4, 1972), *reprinted in* A Legislative History of the Water Pollution Control Act Amendments of 1972 (''1972 Leg. Hist.''), at 170. It is also consistent with the overall goals of the Act. *See* CWA Section 101(a). Agencies have considerable discretion to interpret their statutes to promote Congressional objectives. '' '[T]he breadth of agency discretion is, if anything, at zenith when the action * * * relates primarily to * * * the fashioning of policies, remedies and sanctions, including enforcement and voluntary compliance programs[,] in order to arrive at maximum effectuation of Congressional objectives.' '' *U.S. Steelworkers of America* v. *Marshall,* 647 F.2d 1189, 1230–31 n.64 (D.C. Cir. 1980) (upholding OSHA rule staggering lead requirements over 10 years) (quoting *Niagara Mohawk Power Corp.* v. *FPC,* 379 F.2d 153, 159 (D.C. Cir. 1967)), *cert. denied,* 453 U.S. 9113 (1981). In this case, the codification of progressively more stringent BAT limitations advances not only the general goal of the Clean Water Act, but also the explicit goal of the BAT program. *See Chevron, U.S.A., Inc.* v. *NRDC,* 467 U.S. 837, 843–44 (1984).

Moving toward the elimination of pollutant discharges in stages is also consistent with overarching structure of the effluent limitations guidelines program. Congress originally envisioned that the sequence of attaining BPT limits in 1977 and BAT limits in 1983 would result in ''levels of control which approach and achieve the elimination of the discharge of pollutants.'' Statement of Sen. Muskie (Oct. 4, 1972), *reprinted in* 1972 Legislative History, at 170. This two-step approach produced dramatic improvements in water quality, but did not achieve the elimination of pollutant discharges. Therefore, EPA periodically revisits and revises its effluent limitations guidelines with the intention each time of making further progress toward the national goal. (This is the sixth effluent limitations guideline promulgated for the pulp and paper industry, and the fourth applicable to bleached papergrade kraft and soda mills.) Achieving these incremental improvements through successive rulemakings carries a substantial cost, however. The effluent guideline rulemaking process is highly complex, in large part because of the massive record compiled to inform the Agency's decisions and because of the substantial costs associated with achieving each additional increment of environmental improvement. By promulgating these Voluntary Advanced Technology BAT limitations today as a package of incremental environmental improvements, EPA hopes to achieve the goals that Congress envisioned for the BAT program at considerably less cost: one rulemaking that looks both at the present and well into the future. Mills willing to surpass today's compulsory BAT requirements have a framework to anticipate what could be tomorrow's subcategory-wide BAT and to make today's environmental, financial and engineering judgments accordingly. Thus, the three-tiered incentives program itself represents reasonable further progress toward the goal of eliminating pollutant discharges. At the same time, within each Tier, mills must make incremental improvements that also represent reasonable further progress toward that national goal. In short, each BAT increment, whether in the form of the Tiers themselves or the progressively more stringent limitations comprising them, gives contemporary meaning to the staging process originally envisioned by Congress as the means to achieve the goal of eliminating discharge of pollutants to the Nation's waters.

Finally, like other agencies, EPA has inherent authority to phase in regulatory requirements in appropriate cases. EPA has employed this authority in other contexts. For example, EPA recently phased in, over two years, TSCA rules pertaining to lead-based paint activities. *See* 40 CFR 746.239 and 61 FR 45788, 45803 (Aug. 29, 1996). Similarly, the Occupational Safety and Health Administration phased in, over 10 years, a series of progressively more stringent lead-related controls. See 29 CFR 1910.1025 (1979 ed.). Indeed, in upholding that rule, the U.S. Court of Appeals for the D.C. Circuit noted that ''the extremely remote deadline at which the [sources] are to meet the final [permissible exposure limits] is perhaps the single most important factor supporting the feasibility of the standard.'' *United Steelworkers of America* v. *Marshall,* 647 F.2d at 1278.

EPA is aware that CWA sections 301(b)(2)(C) & (D) require BAT limits to be achieved ''in no case later than three years after the date such limits are promulgated under section 304(b), and in no case later than March 31, 1989.'' (Section 301(b)(2)(F), which refers to BAT limitations for nonconventional pollutants, also contains the March 31, 1989 date, but uses as its starting point the date the limitations are ''established.'') This language does not speak to the precise question EPA confronts here: whether EPA can

promulgate Voluntary Advanced Technology BAT limitations that are phased in over time, so that a direct discharger at all times is subject to and must comply immediately with the particular BAT limitations applicable to them at any given point in time. Section 301(b)(2) provides no clear direction. EPA therefore is charged with making a reasonable interpretation of the statute to fill the gap. *See Chevron, U.S.A., Inc.* v. *NRDC,* 467 U.S. at 843–44. EPA believes that subjecting mills who voluntarily enroll in the Voluntary Advance Technology Incentives Program to progressively more stringent BAT limitations over time best serves Congress' intent of pushing mills to achieve reasonable further progress toward eliminating all pollutant discharges. It also ensures that mills achieve these superior performance requirements at a pace that makes technical and economic sense. Finally, by phasing in these highly stringent—but elected—controls, EPA hopes to encourage more mills to surpass the BAT baseline, with the result that the environment realizes a far greater improvement than EPA could expect to see without this phased approach. For these reasons, EPA believes it is entitled to deference in its decision to promulgate Voluntary Advanced Technology BAT limits in this manner.

Several commenters supported the idea of phasing in compliance with BAT limitations for the purpose of minimizing short-term economic impacts on mills, but urged EPA to adopt this approach to set baseline BAT limits based on the model Tier I Advanced Technology (i.e., BAT Option B). In other words, these commenters argued that more stringent baseline BAT limits based on the Tier I technology would be economically achievable for the entire subcategory because affected mills would have five years to achieve full compliance. As noted above, EPA agrees that The Advanced Technologies that are not economically achievable at present can become economically achievable for individual mills that voluntarily participate as time passes. Indeed, Congress recognized as much in requiring EPA to review its effluent guidelines and to revise them as appropriate. See CWA section 304(b). However, EPA disagrees that it currently has sufficient basis on the record available today to compel all mills in the Bleached Papergrade Kraft and Soda subcategory to meet the more stringent limits five years from now. In this rulemaking, the economic achievability of those more stringent (Tier I) limits is determined by the voluntary investment decisions of the affected mills; because of the voluntary nature of the Advanced Technology Incentives Program, it is the mills, not EPA, that determine that particular Advanced Technologies are available and economically achievable for them within the time frames provided in this program. In order for EPA to impose Advanced Technology limits on the entire subcategory as the commenter suggests, EPA would need to find adequate support in the rulemaking record today that compulsory BAT limits will be economically achievable for their entire subcategory five years from now. EPA cannot make that determination based on the information available today. At best, EPA could only speculate whether some or all of the mills projected to sustain the most severe economic impacts if BAT Option B is selected would be able to avoid those impacts if compliance with that BAT is deferred. EPA does not believe that this type of speculation is a sufficient basis for compelling compliance with BAT limits that are not economically achievable today for the subcategory as a whole. Moreover, when EPA estimated the effects of deferring compliance, subcategory-wide, for five years in response to these comments, EPA concluded that the projected impacts were such that, even then, BAT Option B would not be economically achievable for the subcategory as a whole. See Section VI.B.5.a(5). For these reasons, EPA concludes that it does not have a sufficient record basis today to make Tier I (or BAT Option B) limitations the compulsory baseline BAT even if such limits would not be effective until 2002. See DCN 14392, and CBI documents DCN 14390 and DCN 14391.

EPA could have accomplished the same results in this rulemaking simply by deferring the effective dates of the ultimate Advanced Technology performance objectives until the dates specified in the rule for achievement of the ''stage 2'' limitations. EPA has the legal authority to defer the effective dates of the ''stage 2'' portion of the Advanced Technology BAT limitations in this manner. Subject to the minimum delays imposed by the APA, 5 U.S.C. § 553(d), and the Small Business Regulatory Enforcement Fairness Act (SBREFA), 5 U.S.C. § 801, EPA has inherent authority to determine the effective date of a rule and to defer the effective date in appropriate cases. *See ASG Industries, Inc.* v. *Consumer Products Safety Comm'n,* 593 F.2d 1323, 1335 (D.C. Cir. 1979). Nothing in the Clean Water Act limits this authority with respect to BAT effluent limitations guidelines. In contrast to section 306(b)(1)(B), where Congress explicitly stated that new source performance standards, ''or revisions thereof, shall become effective upon promulgation,'' the CWA is silent regarding the effective date of BAT effluent limitations guidelines. Having failed to prescribe when BAT guidelines become effective, Congress therefore has delegated to the Agency the authority to choose the appropriate effective date of the BAT effluent guideline limitations it promulgates, so long as the Agency's choice is consistent with the goals and purposes of the Act. *See Chevron, U.S.A., Inc.* v. *NRDC,* 467 U.S. at 843–44, 861. Under this approach, the ''stage 1'' limitations would be effective immediately, and the ''stage 2'' limitations would become effective by the dates specified in the regulation.

B. Incentives Available After Achievement of Advanced Technology BAT Limitations and NSPS

1. Greater Certainty Regarding Permit Limits and Requirements

Industry stakeholders have suggested to EPA that mills could be encouraged to implement advanced technologies if they had a reasonable assurance that all limitations and conditions in their permits would remain constant over a specified period of time, once compliance with the Advanced Technology limits and standards is achieved.

Under this incentive, EPA will issue guidance to states regarding the reissuance of NPDES permits held by mills that achieve all of their Advanced Technology BAT limitations or NSPS. (EPA notes that new sources that accept permit limitations based on, and commence operation in compliance with, Tier II or Tier III NSPS automatically possess a shield against more stringent standards of performance for ten years from the completion of construction.)

In its forthcoming guidance, EPA will address the timing of reissuing Advanced Technology NPDES permits and the limitations those reissued permits should contain. Regarding the reissuance of Advanced Technology NPDES permits, EPA believes that permitting authorities could reasonably conclude that an Advanced Technology NPDES permit held by a mill meeting all of its Tier limits is a low priority for permit reissuance, if there is no new water quality- or facility-related data or information that would justify new or different limits. Under these circumstances, EPA believes it would be reasonable for a permitting authority to

conclude that that permit is a lower priority for reissuance because the mill is voluntarily achieving reductions greater than otherwise required by the baseline BAT and hence presents a lower risk to water quality than other mills.

In its guidance, however, EPA will emphasize that an Advanced Technology NPDES permit should be administratively extended only if the permitting authority had provided the public with notice (the last time the permit was reissued) that it might choose to extend the permit administratively when it expires. Thus, EPA expects the permitting authority to notify the public as part of the preceding permitting process of the circumstances under which it would regard the Advanced Technology NPDES permit as a low priority for reissuance in the next permitting cycle. For example, EPA expects the permitting authority to inform the public that the permit probably would be administratively extended if the permittee has achieved all of its Advanced Technology limitations, if it has filed a timely permit application, and if the permitting authority possesses no new water quality or facility-related data that would justify new or different permit conditions and limits. In addition, EPA expects that the permit eligible for an administrative extension would contain BMPs and any water quality-based effluent limits necessary to achieve applicable water quality standards. Thus, EPA would not expect any adverse effect on the environment during the period the permit is administratively extended, in the absence of specific information indicating that more stringent water quality effluent limits need to be imposed.

The forthcoming guidance will also address the types of limitations an Advanced Technology NPDES permit should contain when it is reissued after achievement of the Tier limitations. As a threshold matter, the permitting authority will need to determine if there is a need for new or revised water quality-based effluent limitations. If there is none, EPA encourages permitting authorities to promptly reissue the NPDES permit with the existing water quality-based effluent limitations, if any, and the appropriate limitations found in 40 CFR Part 430. In some cases, the permitting authority may receive new facility- or watershed-specific information indicating that load reductions and, consequently, more stringent effluent limits on a pollutant in the mill's wastewater are necessary to achieve applicable water quality standards for that pollutant. Under these circumstances, EPA would urge states to develop priorities for allocating the necessary load reductions in a way that gives preference to Advanced Technology mills over all other Subpart B mills, particularly where Advanced Technology mills contribute a small portion of the total pollutant loads to the stream. Moreover, where more than one Advanced Technology mill discharges in a watershed, these priorities would further give preference first to Tier III mills, then to Tier II, and finally to Tier I mills.

2. Reduced Effluent Monitoring

EPA believes that reduced monitoring provisions are appropriate for ECF and TCF mills participating in the Voluntary Advanced Technology Incentives Program and is including them in the today's regulation for mills that achieve Voluntary Advanced Technology BAT Limitations or NSPS, as appropriate. See 40 CFR 430.02(c), (d) and (e). In EPA's view, consistent and successful implementation of the Advanced Technologies through ECF or TCF processes will make it increasingly less likely that the pollutants controlled by the baseline BAT will be present in the wastewater from Advanced Technology fiber lines in levels of concern. Because of these reductions and because monitoring for these pollutants tends to be costly, EPA believes it is reasonable to allow mills achieving the Voluntary Advanced Technology BAT limitations or NSPS through ECF or TCF processes to monitor less frequently for those pollutant parameters over time after establishing a reliable baseline of consistent achievement of those Advanced Technology BAT limitations or NSPS. See 40 CFR 430.02(c)–(e). To qualify for a monitoring incentive, the mill must certify that the fiber line is TCF or Advanced ECF either as part of their permit application or as part of a report of progress on compliance with milestones established to achieve their ultimate Tier limits. 40 CFR 430.02(c).

No monitoring incentive is available for kappa number or flow because no minimum monitoring frequencies are being established by this regulation. EPA encourages permitting authorities to consider factors such as the reliability of the Advanced Technology to consistently achieve or exceed the applicable limitations and performance variability in establishing monitoring frequencies for kappa number and flow on a best professional judgment basis.

The monitoring incentive for AOX applies only when the entire mill is ECF or TCF. See 40 CFR 430.02(c) and (d). Since compliance with AOX most likely will be determined at the end of the pipe, the monitoring requirement would be governed by the fiber line for which most frequent monitoring is required.

EPA retains the authority to request or obtain specific information that may be needed to determine compliance with the requirements of this rule. Because monitoring relief is specified to be available by the date compliance is required, even if the limits have not been achieved, EPA anticipates that permitting authorities will exercise their Section 308 authority to extend more frequent monitoring for mills that do not achieve compliance with their limitations.

EPA relies on section 308(a) of the Clean Water Act for authority to promulgate this incentive. The reduced monitoring for this effluent limitations guideline incentive program is being incorporated in the *Code of Federal Regulations*, and is summarized as follows:

a. For TCF fiber lines under Tiers I, II, and III, no monitoring incentive is available because no existing TCF fiber line is subject to minimum monitoring frequencies established by this rule. See 40 CFR 430.02(a). EPA anticipates that permitting authorities will consider the monitoring for AOX being imposed on mills in comparable Tiers, and the additional assurance of compliance that TCF process technologies afford relative to AOX, in establishing monitoring frequencies on a best professional judgment basis. For mills that use TCF processes part of the time and ECF processes for the remainder, EPA would apply the reduced monitoring incentive applicable to an ECF process. See 40 CFR 430.02(c), (d) and (e).

b. For any fiber line enrolled under Tier I, II, or III for which the mill certifies in its NPDES permit application or other communication to the permitting authority that it employs exclusively Advanced ECF technologies (i.e., extended delignification or other technologies that achieve at least the Tier I performance levels specified in Section 430.24(b)(4)(i)), the minimum monitoring requirements for dioxin, furan, chloroform and the 12 chlorinated phenolic pollutants will be suspended after one year of monitoring following achievement of those limitations and standards. See 40 CFR 430.02(c). (These limitations and standards must be achieved no later than April 15, 2004. See 40 CFR 430.24(b)(3).) For AOX, a certifying Advanced ECF mill also would be permitted to perform weekly instead of daily monitoring for one year after achievement of the ultimate Tier BAT limit or NSPS for that pollutant. See 40

CFR 430.02(d). Monitoring for AOX once per month would be permitted for Tier I ECF mills for four years beyond the completion of that one year period. See 40 CFR 430.02(e). Tier II ECF mills would be permitted to monitor for AOX once per quarter for four years beyond the completion of that one year period, and Tier III ECF mills would be permitted to monitor for AOX once per year for four years beyond the completion of that one year period. *Id.*

3. Reduced Inspections

EPA will issue guidance to EPA Regional Offices indicating that fiber lines enrolled in the Voluntary Advanced Technology Incentives Program and achieving Voluntary Advanced Technology BAT limitations or NSPS should be a lower priority than other NPDES facilities for routine inspections under the CWA. Under this incentive, the guidance would recommend that fiber lines achieving Tier I limits receive routine EPA inspections not more than once every two years; fiber lines achieving Tier II limits receive routine EPA inspections not more than twice every five years; and fiber lines achieving Tier III limits receive routine EPA inspections not more than once every five years. This incentive reflects EPA's view that mills installing and operating Advanced Technologies at levels to meet the appropriate tier effluent limitations and standards are likely to be complying with the other permit requirements applicable to that fiber line. Furthermore, the substantial reductions in pollutants and wastewater volumes discharged, particularly by mills achieving Tier II and Tier III limitations and standards, will have commensurately reduced environmental impacts. EPA already has redirected Federal NPDES inspections away from annual inspections of all major dischargers to focus on high risk facilities in priority watersheds. Targeted efforts in these priority watersheds focus on such factors as facility compliance status and rates, location and affected population, citizen complaints, etc. Nonetheless, under this incentive, EPA reserves the authority to conduct multi-media inspections without prior notice, and to inspect Advanced Technology fiber lines for cause, whether or not there is an ongoing violation. EPA also reserves its right to inspect an Advanced Technology mill in connection with specific watershed or airshed concerns.

4. Public Recognition Programs

EPA is pleased to have the opportunity to implement a program in which it can recognize facilities for voluntary activities that achieve further environmental improvements beyond those required by the baseline BAT limitations and NSPS promulgated today. EPA's intention is to provide for easily administered and meaningful public recognition for mills that participate in the Voluntary Advanced Technology Incentives Program. EPA will accord public recognition to mills when they formally enroll in the Program, when they achieve major interim milestones, and when they achieve the ultimate Tier performance requirements. The applicable state permitting authority also may choose to separately recognize a pulp and paper mill for its commitments and achievements toward further environmental improvements. The following paragraphs describe the steps for public recognition. EPA will issue additional guidance to facilitate implementation of this incentive.

a. Enrolling in the Voluntary Advanced Technology Incentives Program. Once a mill has enrolled in the Voluntary Advanced Technology Incentives Program, EPA will issue a letter to each facility acknowledging its participation and identifying the tier limits (and fiber line(s) as appropriate) to which the mill has committed. Each year EPA will publish a **Federal Register** notice identifying mills that have committed to the program within the previous year. The self-selected Tier will be clearly identified, as will any other pertinent information. The **Federal Register** notice will be made available on the EPA Internet web site.

b. Achievement of Milestones. Each time a mill achieves a major milestone (particularly those which achieve reduction in effluent pollutant loadings), EPA will recognize that mill in its annual **Federal Register** notice. In order to qualify for this recognition, each mill must notify its permitting authority and provide supporting monitoring data or other relevant documentation. The permitting authority may choose to visit the site for verification. EPA, in concert with the relevant state NPDES programs, also will then ascertain the status of Clean Water Act compliance and any other enforcement actions prior to public recognition activities. Any criminal enforcement activities, particularly convictions, also will be ascertained. This information on compliance and enforcement status will be available for consideration by EPA senior management prior to initiation of public recognition activities. Relevant information on enforcement and compliance status also may be shared as appropriate with senior management of state permitting agencies that initiate separate public recognition activities. Public recognition for achieving milestones will continue until the date participating mills are required to achieve the ultimate Tier performance requirements.

c. Achievement of Voluntary Advanced Technologies BAT Limitations or NSPS. Mills that achieve their Advanced Technology BAT Limitations or NSPS will notify the permitting authority and submit supporting monitoring data and other relevant documentation. The permitting authority will verify that the Advanced Technology BAT Limitations or NSPS have been achieved. The annual **Federal Register** notice will identify these facilities as reaching their goal. EPA also will participate in an award ceremony at an appropriate venue (e.g., TAPPI Environmental Conference).

5. Reduced Penalties

In recognition of the considerable capital expenditures that mills participating in the Voluntary Advanced Technology Incentives Program will make to implement Advanced Technologies and to achieve pollutant reductions superior to those achievable through the baseline BAT or NSPS, EPA will encourage enforcement authorities to take into account those investments as appropriate when assessing penalties against these mills for violations relating to those Advanced Technologies. Existing EPA settlement policies provide consideration of Advanced Technology investments in this manner. In EPA's view, if a facility has installed and is operating the Advanced Technology in good faith, reports violations in a prompt manner to EPA or the State, and either corrects the violations in a timely manner or agrees to and complies with reasonable remedial measures concurred on by the primary enforcement authority, then the enforcement authority would be justified in taking the Advanced Technology investment into account in determining economic benefit and in reducing the gravity portion of the penalty by up to 100 percent. Where the installation and operation of any Advanced Technology was more expensive than the installation and operation of the technology underlying the baseline BAT, the Advanced Technology facilities would derive no economic benefit (i.e., zero BEN) from the violation associated with the Advanced Technology. This would be the case even when the Advanced Technology fails, as long as the design, operation and installation are within

applicable engineering standards and operational procedures are within industry norms. The decision whether to take such Advanced Technology investments into account in determining economic benefit would be left to the State's discretion when the State is the enforcing authority. EPA will issue guidance to clarify application of this incentive.

Mills also can take advantage of the recently issued audit policy providing they meet the criteria specified in that policy. See 60 FR 66706 (Dec. 22, 1995).

X. Administrative Requirements and Related Government Acts or Initiatives

A. Dockets

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of the final regulations. The principal purposes of the docket are: (1) To allow interested parties to readily identify and locate documents so that they can intelligently and effectively participate in the rulemaking process; and (2) to serve as the record in case of judicial review, except for intra-agency review materials as provided for in section 307(d)(7)(A).

1. Air Dockets

Air Docket No. A–92–40 contains information considered by EPA in development of the NESHAP for the chemical wood pulping mills. Air Docket No. A–95–31 contains information considered in developing the NESHAP for mechanical pulping processes, secondary fiber pulping processes, and nonwood fiber pulping processes. The Air Dockets are available for public inspection between 8 a.m. and 4 p.m., Monday through Friday except for Federal holidays, at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (MC–6102), 401 M Street SW, Washington, DC 20460; telephone: (202) 260–7548. The dockets are located at the above address in Room M–1500, Waterside Mall (ground floor). All comments received during the public comment period on the 1993 proposed NESHAP are contained in the Pulp and Paper Water Docket (see following paragraph for location). Comments received on the March 8, 1996, supplemental NESHAP notice at 61 FR 9383 are contained in Air Dockets A–92–40 and A–95–31.

2. Water Docket

The complete public record for the effluent limitations guidelines and standards rulemaking, including EPA's responses to comments received during the rulemaking, is available for review at EPA's Water Docket, Room M2616, 401 M Street SW, Washington, DC 20460. For access to Docket materials, call (202) 260–3027. The Docket staff requests that interested parties call between 9:00 am and 3:30 pm for an appointment before visiting the docket.

The EPA regulations at 40 CFR Part 2 provide that a reasonable fee may be charged for copying materials from the Air and Water Dockets.

EPA notes that many documents in the record supporting these final rules have been claimed as confidential business information (CBI) and, therefore, are not included in the record that is available to the public in the Air and Water Dockets. To support the rulemaking, EPA is presenting certain information in aggregated form or is masking facility identities to preserve confidentiality claims. Further, the Agency has withheld from disclosure some data not claimed as confidential business information because release of this information could indirectly reveal information claimed to be confidential.

B. Executive Order 12866 and OMB Review

Under Executive Order 12866, (58 *FR* 51735, October 4, 1993), the Agency must determine whether the regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that ''is likely to result in a rule that may: (1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.''

Pursuant to the terms of Executive Order 12866, it has been determined that the Cluster Rules are a ''significant regulatory action'' because they will have an annual effect on the economy of $100 million or more. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public record.

C. Regulatory Flexibility Act and the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA)

Under the Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.*, as amended by SBREFA, EPA generally is required to conduct a regulatory flexibility analysis describing the impact of the rule on small entities. However, under section 605(b) of the RFA, EPA is not required to prepare the regulatory flexibility analysis if EPA certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Pursuant to section 605(b) of the RFA, the Agency certifies that today's final CWA rule will not have a significant economic impact on a substantial number of small entities. In addition, EPA also finds that the final CAA rule will not have a significant economic impact on a substantial number of small entities. Small entities, as defined, include small businesses, small governments, and small organizations. This rulemaking does not affect small organizations. For small governments, these rules could directly affect administration or operating costs, but are not expected to result in significant impacts (see Section X.E.). Small businesses are the remaining class of small entity affected by this rulemaking. For small businesses, EPA examined the economic impacts of these rules in detail and the results of its analysis are found in the ''Economic Analysis'' (see DCN 14649). The following is a brief summary of the analysis.

Today's CWA final rule will not have a significant economic impact on a substantial number of small entities, because of those companies affected by the CWA rule, only four are ''a small business concern'' as defined by SBA regulations. (The RFA, in general, requires use of SBA definitions of small businesses; for this regulation, small businesses are defined as firms employing no more than 750 workers.) EPA does not believe this is a substantial number of small entities as that term is used in the RFA. Moreover, while all four small business concerns would experience increased costs of operation as a result of today's rule, the costs of complying with the rule are also not significant. As a measure of the economic impact of today's requirements on a small entity, EPA evaluated the costs of the rule relative to the company's annual revenues. The cost of the rule only exceeded one percent of revenues for one of the facilities and in no case did it exceed three percent.

When the costs of the CWA rule are considered in combination with the costs of the final CAA MACT I and MACT III rules, EPA's conclusion does not change. EPA's analysis showed that the combined costs of achieving compliance with the final air and water rules will not have a significant economic impact on a substantial number of small entities. As noted above, the CWA rule affects only four small entities. Further, the combined costs of the rules only exceeded one percent of revenues for one of the four small entities covered by both the final air and water rules, and for no small entity did it exceed three percent. Even though this is a small cost, because of the poor pre-existing economic conditions at one facility, EPA projects that one facility owned by one of the small firms may close as a result of the combined final CWA and CAA rules. EPA has determined that one closure is not a significant economic impact on a substantial number of small business concerns.

Though not required by the RFA, EPA also examined the costs of the final CWA rule in combination with the costs of the final MACT I and MACT III and proposed MACT II rules. EPA's analysis showed that the combined costs of achieving compliance with the final air and water rules and the proposed MACT II rule would not have a significant economic impact on a substantial number of small entities. As stated before, only four small entities would be affected. The combined cost of the rules would only exceed one percent of revenues for two small entities and for no small entity covered by both the final air and water rules and the proposed air rule would it exceed three percent. Even though this is a small cost, because of the poor pre-existing economic conditions at one facility, EPA projects that one facility owned by one of the small firms may close as a result of the final CWA and final and proposed CAA rules.

EPA's assessment of the impacts on small businesses subject to the final CAA rules yields similar results. EPA evaluated the impacts of the costs of the final MACT I and MACT III rules on small businesses. Of the companies affected by the two CAA rules, only 11 meet the SBA definition of ''a small business concern.'' EPA does not believe this is a substantial number of small entities as that term is used in the RFA. EPA has also examined the extent of the impact on those 11 companies and finds that the costs of complying with the final MACT I rule and the final MACT III rule will not have a significant economic impact on a substantial number of small entities. In evaluating the costs of the rules relative to the company's annual revenues, EPA's analysis shows that no company is estimated to incur costs in excess of one percent of its revenues as a result of implementing the final MACT I and MACT III rules. As a consequence, EPA finds that the CAA rule does not have a significant economic impact on a substantial number of small entities.

When the costs of the final MACT I and MACT III rules are considered in combination with the costs of the final CWA rule, EPA's analysis shows that the combined costs of achieving compliance with the final air and water rules is still not a significant impact on a substantial number of small entities. As discussed, only 11 small business concerns must comply with the CAA rule. Of these, only four will experience additional costs due to the CWA rule. The combined costs of the rules only exceeded one percent of revenues for one small entity covered by both the air and water rules, and for no small entity did it exceed three percent. Even though this is a small cost, because of the poor pre-existing economic conditions at one facility, EPA projects that one facility owned by one of the small firms may close as a result of the combined final CWA and CAA rules.

Though not required by the RFA, EPA also assessed the cumulative economic effect on small entities if the proposed MACT rule is adopted. EPA's conclusion that costs to small entities are not great does not change when the costs of the final and proposed MACT rules are combined with the costs of the final CWA rule. The combined cost of the rules would only exceed one percent of revenues for two small entities covered by both the final air and water rules and the proposed air rule, and for no small entity would it exceed three percent. Even though this is a small cost, because of the poor pre-existing economic conditions at one facility, EPA projects that one facility owned by one of the small firms may close as a result of the combined final CWA and CAA rules.

D. Paperwork Reduction Act

The information collection requirements in the air emissions rules have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1657.02), and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., SW.; Washington, DC 20460 or by calling (202) 260–2740. The information requirements are not effective until OMB approves them.

The information required to be collected by the air emission rules is needed as part of the overall compliance and enforcement program. It is necessary to identify the regulated entities who are subject to the rule and ensure their compliance with the rule. The recordkeeping and reporting requirements are mandatory and are being established under section 114 of the Clean Air Act.

There are approximately 490 respondents that are potentially affected by the air emission rules. All 490 respondents must submit an initial applicability notification. Of the 490 affected respondents, there would be an estimated 155 respondents required to perform additional information collection. For the 155 respondents, this collection of information has an estimated total annual recordkeeping and reporting burden averaging 320 hours per respondent during the first three years after promulgation. For the 155 respondents, the average annualized cost of the reporting and recordkeeping burden per respondent is $29,600 for the first three years following promulgation.

The recordkeeping and reporting burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Specifically, the estimated 155 respondents must submit performance test notifications, statements of compliance, and semi-annual reports of monitored parameters. The 155 respondents must also conduct performance tests. If compliance exceedances occur, respondents must submit quarterly excess emissions reports. This information will be used to demonstrate compliance with the NESHAP.

Send comments on the Agency's need for this information, the accuracy of the

provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., SW; Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., NW, Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence.

The effluent limitation guidelines and standards promulgated today contain two distinct information collection activities, i.e., specified monitoring requirements, see 40 CFR 430.02, and development of BMP plans and related monitoring, see 40 CFR 430.03(c)(4), (c)(5), (c)(10), (d), (e), (f), (g), (h) and (i)(4). EPA will seek approval of these information collection requirements from the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, as follows. EPA will seek to amend the NPDES Discharge Monitoring Report ICR No. 229, OMB approval number 2040–0004, expiration May 31, 1998, to add specified monitoring requirements for direct dischargers. EPA will seek to add the specified monitoring requirements for indirect dischargers by amending the National Pretreatment Program ICR No. 2, OMB approval number 2040–0009, prior to its expiration on October 31, 1999. EPA will seek approval of the Best Management Practices ICR No. 1829.01 for the requirements pertaining to BMP plans and associated monitoring. EPA's burden estimates for the BMP ICR are presented for comment in a document published elsewhere in today's **Federal Register**.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR parts 9 and 48 CFR chapter 15.

In addition, direct discharging mills continue to be required, under 40 CFR 122.21, to submit certain information as part of their application for an NPDES permit. Indirect discharging mills, in turn, must submit industrial user reports and periodic reports regarding compliance with categorical pretreatment standards under 40 CFR 403.12(b), (d), and (e). The effluent limitations guidelines and standards being promulgated today do not change those requirements. EPA notes that mills that describe their process as TCF or ECF under 40 CFR 122.21(g)(3) or 40 CFR 403.12(b), (d), or (e) as applicable, supply corroborating data if requested by the permitting authority under 40 CFR 122.21(g)(13), and comply with the signatory and certification requirements in 40 CFR 122.22 or 40 CFR 403.12(l) as applicable will be deemed to have certified their process as TCF or ECF. In addition, direct discharging mills that indicate under 40 CFR 122.21(g)(3) and (g)(13) their desire to participate in the Advanced Technology Incentives Program and comply with the signatory and certification requirements in 40 CFR 122.22 or 40 CFR 122.23, whichever is applicable, will be deemed to have enrolled in the Advanced Technology Incentives Program. In both cases, this information will determine the types of technology-based effluent limitations and standards and the types of monitoring requirements, if any, they will receive. OMB has approved the existing information collection requirements associated with NPDES discharge permit applications and industrial user reports under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.* OMB has assigned OMB control number 2040–0086 to the NPDES permit application activity and OMB control numbers 2040–0009 and 2040–0150 to the reporting and certification requirements for industrial users. Nothing in today's rule changes the burden estimates for these ICRs.

All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to the EPA policies set forth in Title 40, Chapter 1, Part 2, Subpart B—Confidentiality of Information (see 40 CFR part 2; 41 FR 36902, September 1, 1976; amended by 43 FR 39999, September 8, 1978; 43 FR 42241, September 28, 1978; 44 FR 17674, March 23, 1979).

E. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that today's final rules contain a Federal mandate that may result in expenditures of $100 million or more for the private sector in any one year. Accordingly, EPA has prepared the written statement required by section 202 of the UMRA. This statement is contained in the Economic Analysis for the rule (DCN 14649) and other support documents and is summarized below. In addition, EPA has determined that the rules contain no regulatory requirements that might significantly or uniquely affect small governments and therefore are not subject to the requirement of section 203 of the UMRA. The reasons for this finding are set forth below.

EPA prepared several supporting analyses for the final rules. Throughout this preamble and in those supporting analyses, EPA has responded to the UMRA section 202 requirements. Considerations with respect to costs, benefits, and regulatory alternatives are addressed in the Economic Analysis (DCN 14649), which is summarized in Section VIII of this preamble. A very brief summary follows.

The statutory authorities for these rules are found in section 112 of the CAA and multiple sections of the CWA (see Section I for a list). In part, these sections of the statutes authorize and direct EPA to issue regulations and standards to address air emissions and effluent discharges.

EPA prepared a qualitative and quantitative cost-benefit assessment of

the federal requirements imposed by today's final rules. In large part, the private sector, not other governments, will incur the costs. Specifically, the costs of this federal mandate are compliance costs to be borne by the regulated pulp and paper mills. In addition, although some States and local governments will incur costs to implement the standards, these costs to governments will not exceed the thresholds established by UMRA. The final rules are not expected to result in significant or unique impacts to small governments; the requirements are consistent with established and already-operating implementation programs.

EPA estimates that the total annualized costs for the private sector to comply with the federal mandate are $351 million (pre-tax)/$229 million (post-tax). The mandate's benefits are primarily in the areas of reduced health risks and improved air and water quality. The Economic Analysis (DCN 14649) describes, qualitatively, many such benefits. The analysis then quantifies a subset of the benefits and, for a subset of the quantified benefits, EPA monetizes (i.e., places a dollar value on) selected benefits. EPA's estimates of the monetized benefits for the final rules are in the range of $39 to $403 million.

EPA does not believe that there will be any disproportionate budgetary effects of the rules on any particular areas of the country, particular types of communities, or particular industry segments. EPA's basis for this finding is its analysis of economic impacts, which is summarized in Section VIII of the preamble and in the Economic Analysis (DCN 14649). A key feature of that analysis is the estimation of financial impacts for each facility incurring compliance costs. EPA considered the costs, impacts, and other effects for specific regions and individual communities, and found no disproportionate budgetary effects. Although these final rules apply only to one industry segment, EPA found no disproportionate budgetary effect. (The term segment as used in this context refers to the industrial category of pulp, paper, and paperboard, and not to individual subcategories within that category; it is used differently in other sections of this preamble.) The Economic Analysis (DCN 14649) also describes the rules' effect on the national economy in terms of effects on productivity, economic growth, and international competitiveness; EPA found such effects to be minimal. Although EPA has determined that these rules do not contain requirements that might significantly or uniquely affect any State, local, or tribal governments (see chapter 7), EPA consulted with State and local air and water pollution control officials. These consultations primarily pertained to implementation issues for States and local governments. EPA's evaluation of their comments is reflected in the final rules.

For each regulatory decision in today's rules, EPA has selected the ''least costly, most cost effective, or least burdensome alternative'' that was consistent with the requirements of the CAA and CWA. This satisfies section 205 of the UMRA. As part of this rulemaking, EPA had identified and considered a reasonable number of regulatory alternatives. Primarily, the regulatory alternatives are manufacturing processes, air emission controls, wastewater discharge controls, and other technologies. Many of the alternatives are described above in Section VI; others are described in supporting documents. The Agency's consideration of alternatives also included an incentives program to encourage bleached papergrade kraft and soda mills to commit to pollution prevention advances beyond the requirements of the federal mandate. See Section IX. The Agency's selection from among these alternatives is consistent with the requirements of UMRA, in terms of cost, cost-effectiveness, and burden. Several sections of the preamble are devoted to describing the Agency's rationale for each regulatory decision (e.g., Sections VI.B.5.a(5) and VI.B.6.b(2)).

Finally, EPA has considered the purpose and intent of the Unfunded Mandates Reform Act and has determined that these rules are needed, not only because of the significant pollutant reductions these rules will achieve, see Section VII, but also to satisfy EPA's obligations under the consent decree in *Environmental Defense Fund and Natural Wildlife Federation* v. *Thomas,* see Section II.C.1.a, and EPA's CAA obligations.

F. Pollution Prevention Act

In the Pollution Prevention Act of 1990 (42 U.S.C. 13101 *et seq.*, Public Law 101–508, November 5, 1990), Congress declared pollution prevention the national policy of the United States. The Pollution Prevention Act declares that pollution should be prevented or reduced whenever feasible; pollution that cannot be prevented or reduced should be recycled or reused in an environmentally safe manner wherever feasible; pollution that cannot be recycled should be treated; and disposal or release into the environment should be chosen only as a last resort.

Today's rules are consistent with this policy. As described in section VI, development of today's rules focused on the pollution-preventing technologies that some segments of the industry have already adopted. Thus, a critical component of the technology bases for today's effluent limitations guidelines and standards are process changes that eliminate or substantially reduce the formation of certain toxic chemicals. EPA also employs process changes as the technology basis for the emission standards.

G. Common Sense Initiative

On August 19, 1994, the Administrator established the Common Sense Initiative (CSI) Council in accordance with the Federal Advisory Committee Act (5 U.S.C. Appendix 2, Section 9 (c)) requirements. A principal goal of the CSI includes developing recommendations for optimal approaches to multimedia controls for industrial sectors including Petroleum Refining, Metal Plating and Finishing, Printing, Electronics and Computers, Auto Manufacturing, and Iron and Steel Manufacturing.

The Pulp and Paper regulations were not among the rulemaking efforts included in the Common Sense Initiative. However, many of the CSI objectives have been incorporated into these final rules, and the Agency intends to continue to pursue these objectives.

H. Executive Order 12875

To reduce the burden of federal regulations on States and small governments, the President issued Executive Order 12875 on October 28, 1993, entitled Enhancing the Intergovernmental Partnership (58 FR 58093). In particular, this executive order requires EPA to consult with representatives of affected State, local, or tribal governments. While these rules do not create mandates upon State, local, or tribal governments, EPA involved State and local governments in their development. Because this regulation imposes costs to the private sector in excess of $100 million, the EPA pursued the preparation of an unfunded mandates statement and the other requirements of the Unfunded Mandates Reform Act. The requirements are met as presented in the unfunded mandate s section above.

I. Executive Order 12898

Executive Order 12898 directs federal agencies to ''determine whether their programs, policies, and activities have

disproportionally high adverse human health or environmental effects on minority populations and low-income populations.'' (Sec.3–301 and Sec. 3–302). In developing the Cluster Rules, EPA analyzed the environmental justice questions raised by these rules. EPA conducted two analyses in 1996 to comply with Executive Order 12898 and to determine human health effects on minority and low-income populations.

First, in a comparison of demographic characteristics, EPA found that there is no significant difference in ethnic makeup or income level of counties where bleached papergrade kraft and soda mills are located when compared to the States in which they are located. In fact, of the twenty-six States with bleached papergrade kraft and soda mills, fifteen States actually have lower minority populations (as a percentage of overall population) in mill counties than in the State as a whole, and sixteen States have a lower percent African-American population in mill counties than in their respective states. Fifteen States have a slightly larger portion of the population living below the poverty line in mill counties (15 percent average) when compared to the State as a whole (14.1 percent average); however, when EPA examined the results statistically, differences examined between mill counties and total State populations were not significant. Therefore, EPA has concluded that the regulatory decisions reflected in today's rules will not have a disproportionately high adverse human health or environmental effect on minority populations or low-income populations.

Second, EPA investigated the fish consumption characteristics of Native American populations downstream from pulp and paper mills. Of the 48 Native American tribes downstream from pulp mills, eight have special subsistence fishing rights. One finding from EPA's analysis is that members of five of these tribes have elevated risks of contracting cancer from consuming fish contaminated by dioxin, when compared to the general population and recreational anglers, because they consume fish at higher levels. EPA expects the final rule to reduce substantially the cancer risks to these tribal populations, as discussed in Chapter 8 of the Economic Analysis (DCN 14649).

J. Submission to Congress and the General Accounting Office

Under 5 U.S.C. 801(a)(1)(A) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's **Federal Register**. This rule is a ''major rule'' as defined by 5 U.S.C. 804(2).

K. National Technology Transfer and Advancement Act

Under Section 12(d) of the National Technology Transfer and Advancement Act, the Agency is required to use voluntary consensus standards in its regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices, etc.) which are developed or adopted by voluntary consensus standards bodies. Where available and potentially applicable voluntary consensus standards are not used by EPA, the Act requires the Agency to provide Congress, through the Office of Management and Budget, an explanation of the reasons for not using such standards. This section summarizes EPA's response to the requirements of the NTTAA for the analytical test methods promulgated as part of today's effluent limitations guidelines and standards.

EPA's analytical test method development is consistent with the requirements of the NTTAA. Although the Agency initiated data collection for these effluent guidelines many years prior to enactment of the NTTAA, traditionally, analytical test method development has been analogous to the Act's requirements for consideration and use of voluntary consensus standards. EPA performed extensive literature searches to identify any analytical methods from industry, academia, voluntary consensus standards bodies and other parties that could be used to measure the analytes in today's rulemaking. The results of this search formed the basis for EPA's analytical method development and validation in support of this rulemaking. Two new analytical test methods are being promulgated in today's final rule (see Section VI.B.4).

The first method is EPA Method 1650 for determination of adsorbable organic halides (AOX). Development of Method 1650 began in 1989 to support data gathering for regulation of pulp and paper industry discharges. This method was developed by combining various procedures contained in methods from voluntary consensus standards bodies and other standards developing organizations such as German DIN standard 38 409, International Standard Organization (ISO) Method 9562, Scandinavian Method SCAN–W 9:89, Standard Method 5320 (published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation), a method published by Environment Canada, EPA's Method 9020 and EPA's interim Method 450.1. The foreign and international methods all employed the batch adsorption technique for determination of AOX; the U.S. methods all employed the column technique. Nearly all data collected by the paper industry and others prior to development of Method 1650 were gathered using the column technique. Method 1650 allows use of both the batch and column techniques but contains restrictions on the batch technique specific to paper industry wastewaters, as detailed in the Method and as described above in Section VI.B.4 and in EPA's responses to public comments (DCN 14497, Vol. VII). In addition to the differences between adsorption techniques, none of the existing methods, including those in voluntary consensus standards, contained the standardized quality control (QC) and QC acceptance criteria that EPA requires for data verification and validation in its water programs. EPA is therefore promulgating the new EPA Method 1650.

EPA is also promulgating EPA Method 1653 for determination of chlorinated phenolics. Development of Method 1653 also began in 1989 to support data gathering for regulation of pulp and paper industry discharges. This method was developed using National Council of the Paper Industry for Air and Stream Improvement (NCASI) Methods CP85.01 and CP86.01 as a starting point and adding the necessary standardized QC and QC acceptance criteria. EPA Method 1653 and the NCASI methods employ in-situ derivatization to assure that only chlorophenolics are derivatized and measured. The in-situ derivatization technique allows only chlorophenolics to be derivatized in the effluent and leaves behind interfering analytes. This condition is necessary for accurate measurement of the relevant analytes. Voluntary consensus standards methods were not available for chlorophenolics by in-situ derivatization. EPA is therefore promulgating the new EPA Method 1653.

Dischargers are also required to monitor for 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (dioxin; TCDD; 2,3,7,8-TCDD), 2,3,7,8-tetrachlorodibenzofuran (TCDF;

2,3,7,8-TCDF), chloroform, biochemical oxygen demand (BOD), and total suspended solids (TSS). Methods for monitoring these pollutants are specified in tables at 40 CFR part 136. When available, methods published by voluntary consensus standards bodies are included in the list of approved methods in these tables. Specifically, voluntary consensus standards are approved for the determination of chloroform, BOD, and TSS (from the 18th edition of Standard Methods). In addition, USGS methods are approved for BOD and TSS.

For TCDD and TCDF, EPA is specifying the use of EPA Method 1613, promulgated at 62 FR 48394 (September 15, 1997). This method was developed to support data gathering for regulation of pulp and paper industry discharges and incorporates procedures from EPA, academia, industry (NCASI and the Dow Chemical Co.) and a commercial laboratory. There were no voluntary consensus standards methods available for these pollutants by high resolution gas chromatography (HRGC) coupled with high resolution mass spectrometry (HRMS) at the time EPA Method 1613 was developed. Both HRGC and HRMS are required to separately detect and measure dioxin and furan isomers at low concentrations (i.e., low parts per quadrillion (ppq)). High resolution techniques are necessary to conduct the assay in the presence of interfering analytes. EPA is unaware of the existence of an HRGC/HRMS method from a voluntary consensus standards body for determination of TCDD and TCDF in the low ppq range in pulp and paper industry discharges.

XI. Background Documents

The summary of public comments and agency responses and the environmental impacts statement for the NESHAP are contained in the final Background Information Document (BID). A paper copy of the final Background Information Document for the NESHAP may be obtained from the U.S. EPA Library (MD–35), Research Triangle Park, North Carolina 27711, telephone (919) 541–2777; or from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22151, telephone (703) 487–4650. To obtain the final Background Information Document, please refer to ''Pulp, Paper, and Paperboard Industry—Background Information for Promulgated Air Emission Standards, Manufacturing Processes at Kraft, Sulfite, Soda, Semi-Chemical, Mechanical, and Secondary and Non-wood Fiber Mills, Final EIS'' (EPA–453/R–93–050b). An electronic copy of the final Background Information Document is available from the Technology Transfer Network described in the **SUPPLEMENTARY INFORMATION** section of this document.

Documents supporting the effluent limitations guidelines and standards may be obtained by contacting the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia 22151, telephone (703) 487–4650.

EPA's technical conclusions concerning the wastewater regulations are detailed in the ''Supplemental Technical Development Document for Effluent Limitations Guidelines and Standards for the Pulp, Paper, and Paperboard Point Source Category'' (EPA–821–R–97–011, DCN 14487). The Agency's economic analysis is found in the ''Economic Analysis for the National Emissions Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Pulp, Paper, and Paperboard Industry—Phase I,'' referred to as the Economic Analysis (EPA–821–R–97–012, DCN 14649). This document also includes an analysis of the incremental costs and pollutant removals for the effluent regulations. Analytical methods used in the development of the effluent guidelines are found in ''Analytical Methods for the Determination of Pollutants in Pulp and Paper Industry Wastewater,'' a compendium of analytical methods (EPA 821–B–97–00). The environmental assessment is presented in the ''Water Quality Assessment of Final Effluent Limitations Guidelines for the Papergrade Sulfite and Bleached Papergrade Kraft and Soda Subcategories of the Pulp, Paper, and Paperboard Industry'' (EPA–823–R–97–009, DCN 14650). The statistical analyses used in this rulemaking are detailed in the ''Statistical Support Document for the Pulp and Paper Industry: Subpart B'' (DCN 14496). The best management practices program is presented in ''Technical Support Document for Best Management Practices for Spent Pulping Liquor Management, Spill Prevention, and Control (DCN 14489), also referred to as the BMP Technical Support Document. The Advanced Technology Incentives Program is presented in the ''Technical Support Document for the Voluntary Advanced Technology Incentives Program,'' (EPA–821–R–97–014, DCN 14488).

List of Subjects

40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

40 CFR Part 261

Hazardous waste, Recycling, Reporting and recordkeeping requirements.

40 CFR Part 430

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

Dated: November 14, 1997.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

2. Part 63 is amended by adding subpart S to read as follows:

Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

Sec.

Table 1 to Subpart S.—General Provisions Applicability to Subpart S

Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

§ 63.440 Applicability.

(a) The provisions of this subpart apply to the owner or operator of processes that produce pulp, paper, or paperboard; that are located at a plant site that is a major source as defined in § 63.2 of subpart A of this part; and that use the following processes and materials:

(1) Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or

(2) Mechanical pulping processes using wood; or

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

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

(1) For the processes specified in paragraph (a)(1) of this section, the affected source is the total of all HAP emission points in the pulping and bleaching systems; or

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

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

(1) Each affected source defined in paragraph (b)(1) of this section that commences construction or reconstruction after December 17, 1993;

(2) Each pulping system or bleaching system for the processes specified in paragraph (a)(1) of this section that commences construction or reconstruction after December 17, 1993;

(3) Each additional pulping or bleaching line at the processes specified in paragraph (a)(1) of this section, that commences construction after December 17, 1993;

(4) Each affected source defined in paragraph (b)(2) of this section that commences construction or reconstruction after March 8, 1996; or

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

(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in paragraphs (d)(1) through (d)(3) of this section.

(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of § 63.443 for the equipment listed in § 63.443(a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006 and the owners and operators shall establish dates, update dates, and report the dates for the milestones specified in § 63.455(b).

(2) Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 through 430.17 and 40 CFR 430.44 through 430.47.

(3) Each bleaching system complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR 430.24, shall comply with the requirements specified in either paragraph (d)(3)(i) or (d)(3)(ii) of this section for the effluent limitation guidelines and standards in 40 CFR 430.24.

(i) Comply with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than April 16, 2001.

(ii) Comply with all of the following:

(A) The owner or operator of a bleaching system shall comply with the bleach plant provisions of § 63.445 of this subpart as expeditiously as practicable, but in no event later than April 15, 2004.

(B) The owner or operator of a bleaching system shall not increase the application rate of chlorine or hypochlorite in kg of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the three months prior to June 15, 1998 until the requirements of paragraph (d)(3)(ii)(A) of this section are met and record application rates as specified in § 63.454(c).

(C) Owners and operators shall establish dates, update dates, and report the dates for the milestones specified in § 63.455(b).

(e) Each new source, specified as the total of all HAP emission points for the sources specified in paragraph (c) of this section, shall achieve compliance upon start-up or June 15, 1998, whichever is later, as provided in § 63.6(b) of subpart A of this part.

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

(g) Each owner or operator of an affected source specified in paragraphs (a) through (c) of this section must comply with the requirements of subpart A—General Provisions of this part, as indicated in table 1 to this subpart.

§ 63.441 Definitions.

All terms used in this subpart shall have the meaning given them in the CAA, in subpart A of this part, and in this section as follows:

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

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

Bleaching means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

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

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

Bleaching system means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

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

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

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

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

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

Digester system means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

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

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

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

HAP means a hazardous air pollutant as defined in § 63.2 of subpart A of this part.

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

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

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

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

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

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

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

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

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

Oven-dried pulp or ODP means a pulp sample at zero percent moisture content by weight. Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp. For purposes of complying with mass emission limits in this subpart, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit. For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

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

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

Process wastewater treatment system means a collection of equipment, a process, or specific technique that removes or destroys the HAP's in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer, or biological treatment unit.

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

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

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

Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including

treatment with ozone, oxygen, or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

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

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

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

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

Soda pulping means a chemical pulping process that uses sodium hydroxide as the active chemical in the cooking liquor.

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

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

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

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

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

Thermal oxidizer means an enclosed device that destroys organic compounds by thermal oxidation.

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

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

§ 63.442 [Reserved]

§ 63.443 Standards for the pulping system at kraft, soda, and semi-chemical processes.

(a) The owner or operator of each pulping system using the kraft process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems, as specified in paragraphs (c) and (d) of this section.

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

(i) Each LVHC system;

(ii) Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs (a)(1)(ii)(A) or (a)(1)(ii)(B) of this section or the combined rate specified in paragraph (a)(1)(ii)(C) of this section.

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

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

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

(iii) Each pulp washing system;

(iv) Each decker system that:

(A) Uses any process water other than fresh water or paper machine white water; or

(B) Uses any process water with a total HAP concentration greater than 400 parts per million by weight; and

(v) Each oxygen delignification system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraphs (a)(1)(i), (a)(1)(iii), and (a)(1)(v) of this section and the following equipment systems shall be controlled:

(i) Each knotter system;

(ii) Each screen system;

(iii) Each decker system; and

(iv) Each weak liquor storage tank.

(b) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (c) and (d) of this section.

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

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

(c) Equipment systems listed in paragraphs (a) and (b) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450.

(d) The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of this section shall:

(1) Reduce total HAP emissions by 98 percent or more by weight; or

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

(3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds; or

(4) Reduce total HAP emissions using a boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.

(e) Periods of excess emissions reported under § 63.455 shall not be a violation of § 63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:

(1) One percent for control devices used to reduce the total HAP emissions from the LVHC system; and

(2) Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and

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

§ 63.444 Standards for the pulping system at sulfite processes.

(a) The owner or operator of each sulfite process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (b) and (c) of this section.

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

(i) Each digester system vent;

(ii) Each evaporator system vent; and

(iii) Each pulp washing system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraph (a)(1) of this section and the following equipment shall be controlled:

(i) Each weak liquor storage tank;

(ii) Each strong liquor storage tank; and

(iii) Each acid condensate storage tank.

(b) Equipment listed in paragraph (a) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450. Emissions from equipment listed in paragraph (a) of this section that is not necessary to be reduced to meet paragraph (c) of this section is not required to be routed to a control device.

(c) The total HAP emissions from both the equipment systems listed in paragraph (a) of this section and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall be controlled as follows.

(1) Each calcium-based or sodium-based sulfite pulping process shall:

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

(ii) Remove 92 percent or more by weight of the total HAP or methanol.

(2) Each magnesium-based or ammonium-based sulfite pulping process shall:

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

(ii) Remove 87 percent or more by weight of the total HAP or methanol.

§ 63.445 Standards for the bleaching system.

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

(1) Bleaching systems that use chlorine;

(2) Bleaching systems bleaching pulp from kraft, sulfite, or soda pulping processes that uses any chlorinated compounds; or

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

(b) The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of this section, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in § 63.450.

(c) The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in paragraph (b) of this section shall:

(1) Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99 percent or more by weight;

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

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

(d) The owner or operator of each bleaching system subject to paragraph (a)(2) of this section shall comply with paragraph (d)(1) or (d)(2) of this section to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under § 63.440(d)(3)(ii) shall comply with paragraph (d)(1) of this section.

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

(i) Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 through 430.17;

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

(iii) Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 through 430.47; or

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

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

§ 63.446 Standards for kraft pulping process condensates.

(a) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this subpart.

(b) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of this section:

(1) Each digester system;

(2) Each turpentine recovery system;

(3) Each evaporator stage where weak liquor is introduced (feed stages) in the evaporator system;

(4) Each HVLC collection system; and

(5) Each LVHC collection system.

(c) One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in paragraph (b) of this section shall be subject to the requirements of paragraphs (d) and (e) of this section:

(1) All pulping process condensates from the equipment systems specified in paragraphs (b)(1) through (b)(5) of this section.

(2) The combined pulping process condensates from the equipment systems specified in paragraphs (b)(4) and (b)(5) of this section, plus pulping process condensate stream(s) that in total contain at least 65 percent of the total HAP mass from the pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(3) of this section.

(3) The pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(5) of this section that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(d) The pulping process condensates from the equipment systems listed in paragraph (b) of this section shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Each closed collection system shall meet the individual drain system

requirements specified in § 63.960, 63.961, and 63.962 of subpart RR of this part, except for closed vent systems and control devices shall be designed and operated in accordance with §§ 63.443(d) and 63.450, instead of in accordance with § 63.693 as specified in § 63.962 (a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(*5*)(*iii*); and

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

(i) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in § 63.450 and routed to a control device that meets the requirements in § 63.443(d); and

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

(e) Each pulping process condensate from the equipment systems listed in paragraph (b) of this section shall be treated according to one of the following options:

(1) Recycle the pulping process condensate to an equipment system specified in § 63.443(a) meeting the requirements specified in § 63.443(c) and (d); or

(2) Discharge the pulping process condensate below the liquid surface of a biological treatment system meeting the requirement specified in paragraph (e)(3) of this section; or

(3) Treat the pulping process condensates to reduce or destroy the total HAP's by at least 92 percent or more by weight; or

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

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

(f) Each HAP removed from a pulping process condensate stream during treatment and handling under paragraphs (d) or (e) of this section, except for those treated according to paragraph (e)(2) of this section, shall be controlled as specified in § 63.443(c) and (d).

(g) For each steam stripper system used to comply with the requirements specified in paragraph (e)(3) of this section, periods of excess emissions reported under § 63.455 shall not be a violation of paragraphs (d), (e), and (f) of this section provided that the time of excess emissions (including periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent.

(h) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of this section, to determine if they meet the applicable requirements of this section.

(i) For the purposes of meeting the requirements in paragraphs (c)(2), (e)(4), or (e)(5) of this section at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached specified in paragraphs (c)(2), (e)(4), or (e)(5) of this section by the ratio of annual megagrams of bleached and unbleached ODP.

§ 63.447 Clean condensate alternative.

As an alternative to the requirements specified in § 63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with § 63.443(a)(1)(ii) through (a)(1)(v).

(a) For the purposes of this section only the following additional definitions apply.

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

(2) *Causticizing system* means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and any other equipment serving the same function as those previously listed.

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

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

(c) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in § 63.457.

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

(1) Process and air pollution control equipment installed and operating on or after December 17, 1993, and

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

(i) The pulping process condensates requirements in § 63.446;

(ii) The applicable effluent limitation guidelines and standards in 40 CFR part 430, subparts A, B, D, and E; and

(iii) All other applicable requirements of local, State, or Federal agencies or statutes.

(e) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in paragraph (d) of this section for each equipment system and the total of all equipment

systems in the clean condensate alternative affected source:

(1) The HAP emission reduction occurring by complying with the requirements of § 63.443(a)(1)(ii) through (a)(1)(v); and

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

(f) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems (instead of total of all equipment systems) within the clean condensate alternative affected source to determine emissions and reductions to demonstrate equal or greater than the reductions that would have been achieved by compliance with § 63.443(a)(1)(ii) through (a)(1)(v).

(g) The initial and updates to the control strategy report specified in § 63.455(b) shall include to the extent possible the following information:

(1) A detailed description of:

(i) The equipment systems and emission points that comprise the clean condensate alternative affected source;

(ii) The air pollution control technologies that would be used to meet the requirements of § 63.443(a)(1)(ii) through (a)(1)(v);

(iii) The clean condensate alternative technology to be used.

(2) Estimates and basis for the estimates of total HAP emissions and emissions reductions to fulfill the requirements paragraphs (d), (e), and (f) of this section.

(h) Each owner or operator shall report to the Administrator by the applicable compliance date specified in § 63.440(d) or (e) the rationale, calculations, test procedures, and data documentation used to demonstrate compliance with all the requirements of this section.

§§ 63.448–63.449 [Reserved]

§ 63.450 Standards for enclosures and closed-vent systems.

(a) Each enclosure and closed-vent system specified in §§ 63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

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

(c) Each component of the closed-vent system used to comply with §§ 63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in § 63.457(d).

(d) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in §§ 63.443, 63.444, or 63.445 shall comply with either of the following requirements:

(1) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

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

§§ 63.451–63.452 [Reserved]

§ 63.453 Monitoring requirements.

(a) Each owner or operator subject to the standards specified in §§ 63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or § 63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in § 63.2 of this part) as specified in paragraphs (b) through (m) of this section, except as allowed in paragraph (m) of this section. The CMS shall include a continuous recorder.

(b) A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of § 63.443(d)(1) through (d)(3). Owners and operators complying with the requirements in § 63.443(d)(2) or (d)(3) shall monitor the parameter specified and for the temperature and concentration limits specified.

(c) A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of § 63.445(c) or the sulfite pulping system requirements of § 63.444(c).

(1) The pH or the oxidation/reduction potential of the gas scrubber effluent;

(2) The gas scrubber vent gas inlet flow rate; and

(3) The gas scrubber liquid influent flow rate.

(d) As an option to the requirements specified in paragraph (c) of this section, a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in § 63.445(c)(2).

(e) The owner or operator of a bleaching system complying with 40 CFR 430.24, shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in § 63.440(d)(3).

(f) A CMS shall be operated to measure the gas scrubber parameters specified in paragraphs (c)(1) through (c)(3) of this section or those site specific parameters determined according to the procedures specified in paragraph (n) of this section to comply with the sulfite pulping system requirements specified in § 63.444(c).

(g) A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in § 63.446(e) (3), (4), or (5):

(1) The process wastewater feed rate;

(2) The steam feed rate; and

(3) The process wastewater column feed temperature.

(h) As an option to the requirements specified in paragraph (g) of this section, a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in § 63.446 (e)(4) or (e)(5).

(i) A CMS shall be operated to measure the appropriate parameters determined according to the procedures specified in paragraph (n) of this section to comply with the condensate applicability requirements specified in § 63.446(c).

(j) Each owner or operator using a biological treatment system to comply with § 63.446(e)(2) shall perform the following monitoring procedures.

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

(i) Composite daily sample of outlet soluble BOD_5 concentration to monitor for maximum daily and maximum monthly average;

(ii) Mixed liquor volatile suspended solids;

(iii) Horsepower of aerator unit(s);

(iv) Inlet liquid flow; and

(v) Liquid temperature.

(2) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly percent reduction tests specified in paragraph (j)(2)(ii) of this section and the compliance percent reduction tests specified in paragraph (p)(1)(i) of this section. Perform the following procedures with the liquid samples:

(i) Store the samples for 5 days as specified in § 63.457(n). The 5 day storage requirement is required since the soluble BOD_5 test requires 5 days to obtain results. If the results of the soluble BOD_5 test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the percent reduction test specified in § 63.457(1).

(ii) Perform the percent reduction test procedures specified in § 63.457(l) within 45 days after the beginning of each quarter as follows.

(A) The percent reduction test performed in the first quarter (annually) shall be performed for total HAP and the percent reduction obtained from the test shall be at least as great as the total HAP reduction specified in § 63.446(e)(2).

(B) The remaining quarterly percent reduction tests shall be performed for methanol and the percent reduction obtained from the test shall be at least as great as the methanol reduction determined in the previous first-quarter test specified in paragraph (j)(2)(ii)(A) of this section.

(C) The parameter values used to calculate the percent reductions required in paragraphs (j)(2)(ii)(A) and (j)(2)(ii)(B) of this section shall be parameter values measured and samples taken in paragraph (j)(1) of this section.

(k) Each enclosure and closed-vent system used to comply with § 63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in § 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by § 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in § 63.450(c) measured initially and annually by the procedures in § 63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in § 63.457(e).

(5) The valve or closure mechanism specified in § 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures or connections to covers required by § 63.450, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

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

(ii) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(l) Each pulping process condensate closed collection system used to comply with § 63.446(d) shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in § 63.964 of subpart RR of this part, except for the closed-vent system and control device inspection and monitoring requirements specified in § 63.964(a)(2) of subpart RR of this part, the closed-vent system and the control device shall meet the requirements specified in paragraphs (a) and (k) of this section.

(m) Each owner or operator using a control device, technique or an alternative parameter other than those specified in paragraphs (b) through (l) of this section shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.

(n) To establish or reestablish, the value for each operating parameter required to be monitored under paragraphs (b) through (j), (l), and (m) of this section or to establish appropriate parameters for paragraphs (f), (i), and (m) of this section, each owner or operator shall use the following procedures:

(1) During the initial performance test required in § 63.457(a) or any subsequent performance test, continuously record the operating parameter;

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

(3) The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with paragraphs (f), (i), and (m) of this section; and

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

(o) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of this section and established under this subpart. Except as provided in paragraph (p) of this section, § 63.443(e), or § 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions.

(p) Each owner or operator of a biological treatment system complying with paragraph (j) of this section shall perform all the following requirements when the monitoring parameters specified in paragraphs (j)(1)(i) through (j)(1)(iii) of this section are below minimum operating parameter values or

above maximum operating parameter values established in paragraph (n) of this section.

(1) The following shall occur and be recorded as soon as practical:

(i) Determine compliance with § 63.446(e)(2) using the percent reduction test procedures specified in § 63.457(l) and the monitoring data specified in paragraph (j)(1) of this section that coincide with the time period of the parameter excursion;

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period; and

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

(2) A parameter excursion is not a violation of the applicable emission standard if the percent reduction test specified in paragraph (p)(1)(i) of this section demonstrates compliance with § 63.446(e)(2), and no maintenance or changes have been made to the process or control device after the beginning of a parameter excursion that would influence the results of the determination.

§ 63.454 Recordkeeping requirements.

(a) The owner or operator of each affected source subject to the requirements of this subpart shall comply with the recordkeeping requirements of § 63.10 of subpart A of this part, as shown in table 1, and the requirements specified in paragraphs (b) through (d) of this section for the monitoring parameters specified in § 63.453.

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

(1) Date of inspection;

(2) The equipment type and identification;

(3) Results of negative pressure tests for enclosures;

(4) Results of leak detection tests;

(5) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);

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

(7) Repair methods applied in each attempt to repair the defect or leak;

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

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

(10) The date of successful repair of the defect or leak;

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

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

(c) The owner or operator of a bleaching system complying with § 63.440(d)(3)(ii)(B) shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in § 63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall record the CMS parameters specified in § 63.453 and meet the requirements specified in paragraph (a) of this section for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this subpart due to a process change or modification.

§ 63.455 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall comply with the reporting requirements of subpart A of this part as specified in table 1 and all the following requirements in this section. The initial notification report specified under § 63.9(b)(2) of subpart A of this part shall be submitted by April 15, 1999.

(b) Each owner or operator of a kraft pulping system specified in § 63.440(d)(1) or a bleaching system specified in § 63.440(d)(3)(ii) shall submit, with the initial notification report specified under § 63.9(b)(2) of subpart A of this part and paragraph (a) of this section and update every two years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in paragraphs (b)(1) through (b)(3) of this section in addition to the information required in § 63.9(b)(2) of subpart A of this part.

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

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

(i) The date by which the major study(s) for determining the compliance strategy will be completed;

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

(iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;

(iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;

(v) The date by which final compliance is to be achieved;

(vi) For compliance with paragraph § 63.440(d)(3)(ii), the tentative dates by which compliance with effluent limitation guidelines and standards intermediate pollutant load effluent reductions and as available, all the dates for the best available technology's milestones reported in the National Pollutant Discharge Elimination System authorized under section 402 of the Clean Water Act and for the best professional milestones in the Voluntary Advanced Technology Incentives Program under 40 CFR 430.24 (b)(2); and

(vii) The date by which the final compliance tests will be performed.

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

(c) The owner or operator of each bleaching system complying with § 63.440(d)(3)(ii)(B) shall certify in the report specified under § 63.10(e)(3) of subpart A of this part that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in § 63.440(d)(3)(ii)(B) until the requirements of § 63.440(d)(3)(ii)(A) are met.

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

§ 63.456 [Reserved]

§ 63.457 Test methods and procedures.

(a) *Initial performance test.* An initial performance test is required for all emission sources subject to the limitations in §§ 63.443, 63.444, 63.445, 63.446, and 63.447, except those controlled by a combustion device that is designed and operated as specified in § 63.443(d)(3) or (d)(4).

(b) *Vent sampling port locations and gas stream properties.* For purposes of

selecting vent sampling port locations and determining vent gas stream properties, required in §§ 63.443, 63.444, 63.445, and 63.447, each owner or operator shall comply with the applicable procedures in paragraphs (b)(1) through (b)(6) of this section.

(1) Method 1 or 1A of part 60, appendix A, as appropriate, shall be used for selection of the sampling site as follows:

(i) To sample for vent gas concentrations and volumetric flow rates, the sampling site shall be located prior to dilution of the vent gas stream and prior to release to the atmosphere;

(ii) For determining compliance with percent reduction requirements, sampling sites shall be located prior to the inlet of the control device and at the outlet of the control device; measurements shall be performed simultaneously at the two sampling sites; and

(iii) For determining compliance with concentration limits or mass emission rate limits, the sampling site shall be located at the outlet of the control device.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter (4.0 inches) in diameter.

(3) The vent gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of part 60, appendix A, as appropriate.

(4) The moisture content of the vent gas shall be measured using Method 4 of part 60, appendix A.

(5) To determine vent gas concentrations, the owner or operator shall collect a minimum of three samples that are representative of normal conditions and average the resulting pollutant concentrations using the following procedures.

(i) Method 308 in Appendix A of this part shall be used to determine the methanol concentration.

(ii) Except for the modifications specified in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(K) of this section, Method 26A of part 60, appendix A shall be used to determine chlorine concentration in the vent stream.

(A) *Probe/Sampling Line.* A separate probe is not required. The sampling line shall be an appropriate length of 0.64 cm (0.25 in) OD Teflon® tubing. The sample inlet end of the sampling line shall be inserted into the stack in such a way as to not entrain liquid condensation from the vent gases. The other end shall be connected to the impingers. The length of the tubing may vary from one sampling site to another, but shall be as short as possible in each situation. If sampling is conducted in sunlight, opaque tubing shall be used. Alternatively, if transparent tubing is used, it shall be covered with opaque tape.

(B) *Impinger Train.* Three 30 milliliter (ml) capacity midget impingers shall be connected in series to the sampling line. The impingers shall have regular tapered stems. Silica gel shall be placed in the third impinger as a desiccant. All impinger train connectors shall be glass and/or Teflon®.

(C) *Critical Orifice.* The critical orifice shall have a flow rate of 200 to 250 ml/min and shall be followed by a vacuum pump capable of providing a vacuum of 640 millimeters of mercury (mm Hg). A 45 millimeter diameter in-line Teflon® 0.8 micrometer filter shall follow the impingers to project the critical orifice and vacuum pump.

(D) The following are necessary for the analysis apparatus:

(*1*) Wash bottle filled with deionized water;

(*2*) 25 or 50 ml graduated burette and stand;

(*3*) Magnetic stirring apparatus and stir bar;

(*4*) Calibrated pH Meter;

(*5*) 150–250 ml beaker or flask; and

(*6*) A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(*1*) through (b)(5)(ii)(E)(*7*) of this section shall be used to prepare the reagents.

(*1*) To prepare the 1 molarity (M) potassium dihydrogen phosphate solution, dissolve 13.61 grams (g) of potassium dihydrogen phosphate in water and dilute to 100 ml.

(*2*) To prepare the 1 M sodium hydroxide solution (NaOH), dissolve 4.0 g of sodium hydroxide in water and dilute to 100 ml.

(*3*) To prepare the buffered 2 percent potassium iodide solution, dissolve 20 g of potassium iodide in 900 ml water. Add 50 ml of the 1 M potassium dihydrogen phosphate solution and 30 ml of the 1 M sodium hydroxide solution. While stirring solution, measure the pH of solution electrometrically and add the 1 M sodium hydroxide solution to bring pH to between 6.95 and 7.05.

(*4*) To prepare the 0.1 normality (N) sodium thiosulfate solution, dissolve 25 g of sodium thiosulfate, pentahydrate, in 800 ml of freshly boiled and cooled distilled water in a 1-liter volumetric flask. Dilute to volume. To prepare the 0.01 N sodium thiosulfate solution, add 10.0 ml standardized 0.1 N sodium thiosulfate solution to a 100 ml volumetric flask, and dilute to volume with water.

(*5*) To standardize the 0.1 N sodium thiosulfate solution, dissolve 3.249 g of anhydrous potassium bi-iodate, primary standard quality, or 3.567 g potassium iodate dried at 103 +/− 2 degrees Centigrade for 1 hour, in distilled water and dilute to 1000 ml to yield a 0.1000 N solution. Store in a glass-stoppered bottle. To 80 ml distilled water, add, with constant stirring, 1 ml concentrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassium iodide. Titrate immediately with 0.1 n sodium thiosulfate titrant until the yellow color of the liberated iodine is almost discharged. Add 1 ml starch indicator solution and continue titrating until the blue color disappears. The normality of the sodium thiosulfate solution is inversely proportional to the ml of sodium thiosulfate solution consumed:

$$\text{Normality of SodiumThiosulfate} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

(*6*) To prepare the starch indicator solution, add a small amount of cold water to 5 g starch and grind in a mortar to obtain a thin paste. Pour paste into 1 L of boiling distilled water, stir, and let settle overnight. Use clear supernate for starch indicator solution.

(*7*) To prepare the 10 percent sulfuric acid solution, add 10 ml of concentrated sulfuric acid to 80 ml water in an 100 ml volumetric flask. Dilute to volume.

(F) The procedures specified in paragraphs (b)(5)(ii)(F)(*1*) through (b)(5)(ii)(F)(*5*) of this section shall be used to perform the sampling.

(*1*) *Preparation of Collection Train.* Measure 20 ml buffered potassium iodide solution into each of the first two impingers and connect probe, impingers, filter, critical orifice, and pump. The sampling line and the impingers shall be shielded from sunlight.

(*2*) *Leak and Flow Check Procedure.* Plug sampling line inlet tip and turn on pump. If a flow of bubbles is visible in either of the liquid impingers, tighten fittings and adjust connections and

impingers. A leakage rate not in excess of 2 percent of the sampling rate is acceptable. Carefully remove the plug from the end of the probe. Check the flow rate at the probe inlet with a bubble tube flow meter. The flow should be comparable or slightly less than the flow rate of the critical orifice with the impingers off-line. Record the flow and turn off the pump.

(*3*) *Sample Collection.* Insert the sampling line into the stack and secure it with the tip slightly lower than the port height. Start the pump, recording the time. End the sampling after 60 minutes, or after yellow color is observed in the second in-line impinger. Record time and remove the tubing from the vent. Recheck flow rate at sampling line inlet and turn off pump. If the flow rate has changed significantly, redo sampling with fresh capture solution. A slight variation (less than 5 percent) in flow may be averaged. With the inlet end of the line elevated above the impingers, add about 5 ml water into the inlet tip to rinse the line into the first impinger.

(*4*) *Sample Analysis.* Fill the burette with 0.01 N sodium thiosulfate solution to the zero mark. Combine the contents of the impingers in the beaker or flask. Stir the solution and titrate with thiosulfate until the solution is colorless. Record the volume of the first endpoint (TN, ml). Add 5 ml of the 10 percent sulfuric acid solution, and continue the titration until the contents of the flask are again colorless. Record the total volume of titrant required to go through the first and to the second endpoint (TA, ml). If the volume of neutral titer is less than 0.5 ml, repeat the testing for a longer period of time. It is important that sufficient lighting be present to clearly see the endpoints, which are determined when the solution turns from pale yellow to colorless. A lighted stirring plate and a white background are useful for this purpose.

(*5*) *Interferences.* Known interfering agents of this method are sulfur dioxide and hydrogen peroxide. Sulfur dioxide, which is used to reduce oxidant residuals in some bleaching systems, reduces formed iodine to iodide in the capture solution. It is therefore a negative interference for chlorine, and in some cases could result in erroneous negative chlorine concentrations. Any agent capable of reducing iodine to iodide could interfere in this manner. A chromium trioxide impregnated filter will capture sulfur dioxide and pass chlorine and chlorine dioxide. Hydrogen peroxide, which is commonly used as a bleaching agent in modern bleaching systems, reacts with iodide to form iodine and thus can cause a positive interference in the chlorine measurement. Due to the chemistry involved, the precision of the chlorine analysis will decrease as the ratio of chlorine dioxide to chlorine increases. Slightly negative calculated concentrations of chlorine may occur when sampling a vent gas with high concentrations of chlorine and very low concentrations of chlorine.

(G) The following calculation shall be performed to determine the corrected sampling flow rate:

$$S_C = S_U\left(\frac{BP - PW}{760}\right)\left(\frac{293}{273 + t}\right)$$

Where:

S_C=Corrected (dry standard) sampling flow rate, liters per minute;
S_U=Uncorrected sampling flow rate, L/min;
BP=Barometric pressure at time of sampling;
PW=Saturated partial pressure of water vapor, mm Hg at temperature; and
t=Ambient temperature, °C.

(H) The following calculation shall be performed to determine the moles of chlorine in the sample:

$$Cl_2 Moles = 1/8000\left(5\,T_N - T_A\right) \times N_{Thio}$$

Where:

T_N=Volume neutral titer, ml;
T_A=Volume acid titer (total), ml; and
N_{Thio}=Normality of sodium thiosulfate titrant.

(I) The following calculation shall be performed to determine the concentration of chlorine in the sample:

$$Cl_2 ppmv = \frac{3005\left(5\,T_N - T_A\right) \times N_{Thio}}{S_C \times t_S}$$

Where:

S_C=Corrected (dry standard) sampling flow rate, liters per minute;
t_S=Time sampled, minutes;
T_N=Volume neutral titer, ml;
T_A=Volume acid titer (total), ml; and
N_{Thio}=Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

$$ClO_2\ Moles = 1/4000\left(T_A - T_N\right) \times N_{Thio}$$

Where:

T_A=Volume acid titer (total), ml;
T_N=Volume neutral titer, ml; and
N_{Thio}=Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

$$ClO_2\ ppmv = \frac{6010\left(T_A - T_N\right) \times N_{Thio}}{S_C \times t_S}$$

Where:

S_C=Corrected (dry standard) sampling flow rate, liters per minute;
t_S=Time sampled, minutes;
T_A=Volume acid titer (total), ml;
T_N=Volume neutral titer, ml; and
N_{Thio}=Normality of sodium thiosulfate titrant.

(iii) Any other method that measures the total HAP or methanol concentration that has been demonstrated to the Administrator's satisfaction.

(6) The minimum sampling time for each of the three runs per method shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(c) *Liquid sampling locations and properties.* For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process waters, and condensates required in §§ 63.444, 63.446, and 63.447, the owner or operator shall comply with the following procedures:

(1) Samples shall be collected using the sampling procedures specified in Method 305 of part 60, appendix A;

(i) Where feasible, samples shall be taken from an enclosed pipe prior to the liquid stream being exposed to the atmosphere; and

(ii) When sampling from an enclosed pipe is not feasible, samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of HAP compounds prior to sampling.

(2) The volumetric flow rate of the entering and exiting liquid streams shall be determined using the inlet and outlet flow meters or other methods demonstrated to the Administrator's satisfaction. The volumetric flow rate measurements to determine actual mass removal shall be taken at the same time as the concentration measurements;

(3) To determine liquid stream total HAP or methanol concentrations, the owner or operator shall collect a minimum of three samples that are representative of normal conditions and average the resulting pollutant concentrations using one of the following:

(i) Method 305 in Appendix A of this part, adjusted using the following equation:

$$\overline{C} = \sum_{i=1}^{n} C_i / fm_i$$

Where:

$\overline{C}$=Pollutant concentration for the liquid stream, parts per million by weight.

C_i=Measured concentration of pollutant i in the liquid stream sample determined using Method 305, parts per million by weight.

fm_i=Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the fm for methanol is 0.85. Additional pollutant fm values can be found in table 34, subpart G of this part.

n=Number of individual pollutants, i, summed to calculate total HAP.

(ii) Any other method that measures total HAP concentration that has been demonstrated to the Administrator's satisfaction.

(4) To determine soluble BOD_5 in the effluent stream from a biological treatment unit used to comply with §§ 63.446(e)(2) and 63.453(j), the owner or operator shall use Method 405.1, of part 136, with the following modifications:

(i) Filter the sample through the filter paper, into Erlenmeyer flask by applying a vacuum to the flask sidearm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform Method 405.1 on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD_5. Three BOD bottles and different dilutions shall be used for each sample.

(d) *Detectable leak procedures.* To measure detectable leaks for closed-vent systems as specified in § 63.450 or for pulping process wastewater collection systems as specified in § 63.446(d)(2)(i), the owner or operator shall comply with the following:

(1) Method 21, of part 60, appendix A; and

(2) The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:

(i) Zero air (less than 10 parts per million by volume of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

(e) *Negative pressure procedures.* To demonstrate negative pressure at process equipment enclosure openings as specified in § 63.450(b), the owner or operator shall use one of the following procedures:

(1) An anemometer to demonstrate flow into the enclosure opening;

(2) Measure the static pressure across the opening;

(3) Smoke tubes to demonstrate flow into the enclosure opening; or

(4) Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(f) *HAP concentration measurements.* For purposes of complying with the requirements in §§ 63.443, 63.444, and 63.447, the owner or operator shall measure the total HAP concentration as one of the following:

(1) As the sum of all individual HAP's; or

(2) As methanol.

(g) *Condensate HAP concentration measurement.* For purposes of complying with the kraft pulping condensate requirements in § 63.446, the owner or operator shall measure the total HAP concentration as methanol except for the purposes of complying with the initial performance test specified in § 63.457(a) for § 63.446(e)(2) and as specified in § 63.453(j)(2)(ii).

(h) *Bleaching HAP concentration measurement.* For purposes of complying with the bleaching system requirements in § 63.445, the owner or operator shall measure the total HAP concentration as the sum of all individual chlorinated HAP's or as chlorine.

(i) *Vent gas stream calculations.* To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP, and percent reduction requirements for vent gas streams specified in §§ 63.443, 63.444, 63.445, and 63.447, the owner or operator shall use the following:

(1) The total HAP mass emission rate shall be calculated using the following equation:

$$E = K_2 \left[\sum_{j=1}^{n} C_j M_j \right] Q_s$$

Where:

E=Mass emission rate of total HAP from the sampled vent, kilograms per hour.

K_2=Constant, 2.494×10^{-6} (parts per million by volume)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

C_j=Concentration on a dry basis of pollutant j in parts per million by volume as measured by the test methods specified in paragraph (b) of this section.

M_j=Molecular weight of pollutant j, gram/gram-mole.

Q_s=Vent gas stream flow rate (dry standard cubic meter per minute) at a temperature of 20 °C as indicated in paragraph (b) of this section.

n=Number of individual pollutants, i, summed to calculate total HAP.

(2) The total HAP mass emission rate per megagram of ODP shall be calculated using the following equation:

$$F = \frac{E}{P}$$

Where:

F=Mass emission rate of total HAP from the sampled vent, in kilograms per megagram of ODP.

E=Mass emission rate of total HAP from the sampled vent, in kilograms per hour determined as specified in paragraph (i)(1) of this section.

P=The production rate of pulp during the sampling period, in megagrams of ODP per hour.

(3) The total HAP percent reduction shall be calculated using the following equation:

$$R = \frac{E_i - E_O}{E_i} (100)$$

Where:

R=Efficiency of control device, percent.

Ei=Inlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

E_o=Outlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

(j) *Liquid stream calculations.* To demonstrate compliance with the mass flow rate, mass per megagram of ODP, and percent reduction requirements for liquid streams specified in § 63.446, the owner or operator shall use the following:

(1) The mass flow rates of total HAP or methanol entering and exiting the treatment process shall be calculated using the following equations:

$$E_b = \frac{K}{n \times 10^6} \left(\sum_{i=1}^{n} V_{bi} C_{bi} \right)$$

$$E_a = \frac{K}{n \times 10^6} \left(\sum_{i=1}^{n} V_{ai} C_{ai} \right)$$

Where:

E_b=Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.

E_a=Mass flow rate of total HAP or methanol in the liquid exiting the treatment process, kilograms per hour.

K=Density of the liquid stream, kilograms per cubic meter.

V_{bi}=Volumetric flow rate of liquid stream entering the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

V_{ai}=Volumetric flow rate of liquid stream exiting the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

C_{bi}=Concentration of total HAP or methanol in the stream entering the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.

C_{ai}=Concentration of total HAP or methanol in the stream exiting the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.

n=Number of runs.

(2) The mass of total HAP or methanol per megagram ODP shall be calculated using the following equation:

$$F = \frac{E_a}{P}$$

Where:

F=Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

E_a=Mass flow rate of total HAP or methanol in the wastewater stream in kilograms per hour as determined using the procedures in paragraph (j)(1) of this section.

P=The production rate of pulp during the sampling period in megagrams of ODP per hour.

(3) The percent reduction of total HAP across the applicable treatment process shall be calculated using the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R=Control efficiency of the treatment process, percent.

E_b=Mass flow rate of total HAP in the stream entering the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

E_a=Mass flow rate of total HAP in the stream exiting the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

(4) Compounds that meet the requirements specified in paragraphs (j)(4)(i) or (4)(ii) of this section are not required to be included in the mass flow rate, mass per megagram of ODP, or the mass percent reduction determinations.

(i) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(ii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight.

(k) *Oxygen concentration correction procedures.* To demonstrate compliance with the total HAP concentration limit of 20 ppmv in § 63.443(d)(2), the concentration measured using the methods specified in paragraph (b)(5) of this section shall be corrected to 10 percent oxygen using the following procedures:

(1) The emission rate correction factor and excess air integrated sampling and analysis procedures of Methods 3A or 3B of part 60, appendix A shall be used to determine the oxygen concentration. The samples shall be taken at the same time that the HAP samples are taken.

(2) The concentration corrected to 10 percent oxygen shall be computed using the following equation:

$$C_c = C_m\left(\frac{10.9}{20.9 - \%O_{2d}}\right)$$

Where:

C_c=Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.

C_m=Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.

$\%0_{2d}$=Concentration of oxygen, dry basis, percent by volume.

(l) *Biological treatment system percent reduction calculation.* To determine compliance with an open biological treatment system option specified in § 63.446(e)(2) and the monitoring requirements specified in § 63.453(j)(2), the percent reduction due to destruction in the biological treatment system shall be calculated using the following equation:

$R=f_{bio}\times 100$

Where:

R=Destruction of total HAP or methanol in the biological treatment process, percent.

f_{bio}=The fraction of total HAP or methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the procedures specified and as limited in appendix C of part 63.

(m) *Condensate segregation procedures.* The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in § 63.446(c).

(1) To demonstrate compliance with the percent mass requirements specified in § 63.446(c)(1), the procedures specified in paragraphs (m)(1)(i) through (m)(1)(iii) of this section shall be performed.

(i) Determine the total HAP mass of all condensates from each equipment system listed in § 63.446 (b)(1) through (b)(3) using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Multiply the total HAP mass determine in paragraph (m)(1)(i) of this section by 0.65 to determine the target HAP mass for the high-HAP fraction condensate stream or streams.

(iii) Compliance with the segregation requirements specified in § 63.446(c)(1) is demonstrated if the condensate stream or streams from each equipment system listed in § 63.446 (b)(1) through (b)(3) being treated as specified in § 63.446(e) contain at least as much total HAP mass as the target total HAP mass determined in paragraph (m)(1)(ii) of this section.

(2) To demonstrate compliance with the percent mass requirements specified in § 63.446(c)(2), the procedures specified in paragraphs (m)(2)(i) through (m)(2)(ii) of this section shall be performed.

(i) Determine the total HAP mass contained in the high-HAP fraction condensates from each equipment system listed in § 63.446(b)(1) through (b)(3) and the total condensates streams from the equipment systems listed in § 63.446(b)(4) and (b)(5), using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Compliance with the segregation requirements specified in § 63.446(c)(2) is demonstrated if the total HAP mass determined in paragraph (m)(2)(i) of this section is equal to or greater than the appropriate mass requirements specified in § 63.446(c)(2).

(n) *Biological treatment system monitoring sampling storage.* The inlet and outlet grab samples required to be collected in § 63.453(j)(2) shall be stored at 4° C (40° F) to minimize the biodegradation of the organic compounds in the samples.

§ 63.458 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the CAA, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States:

(1) Section 63.6(g)—Use of an alternative nonopacity emission standard;

(2) Section 63.453(m)—Use of an alternative monitoring parameter;

(3) Section 63.457(b)(5)(iii)—Use of an alternative test method for total HAP or methanol in vents; and

(4) Section 63.457(c)(3)(ii)—Use of an alternative test method for total HAP or methanol in wastewater.

§ 63.459 [Reserved]

TABLE 1 TO SUBPART S—GENERAL PROVISIONS APPLICABILITY TO SUBPART S [a]

Reference	Applies to Subpart S	Comment
63.1(a)(1)–(3)	Yes.	
63.1(a)(4)	Yes	Subpart S (this table) specifies applicability of each paragraph in subpart A to subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)–(8)	Yes.	
63.1(a)(9)	No	Section reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)–(14)	Yes.	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)–(3)	Yes.	
63.1(c)(1)–(2)	Yes.	
63.1(c)(3)	No	Section reserved.
63.1(c)(4)–(5)	Yes.	
63.1(d)	No	Section reserved.
63.1(e)	Yes.	
63.2	Yes.	
63.3	Yes.	
63.4(a)(1)	Yes.	
63.4(a)(3).		
63.4(a)(4)	No	Section reserved.
63.4(a)(5)	Yes.	
63.4(b)	Yes.	
63.4(c)	Yes.	
63.5(a)	Yes.	
63.5(b)(1)	Yes.	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)	Yes.	
63.5(b)(4)–(6)	Yes.	
63.5(c)	No	Section reserved.
63.5(d)	Yes.	
63.5(e)	Yes.	
63.5(f)	Yes.	
63.6(a)	Yes.	
63.6(b)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(c)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(d)	No	Section reserved.
63.6(e)	Yes.	
63.6(f)	Yes.	
63.6(g)	Yes.	
63.6(h)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(i)	Yes.	
63.6(j)	Yes.	
63.7	Yes.	
63.8(a)(1)	Yes.	
63.8(a)(2)	Yes.	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes.	
63.8(b)(1)	Yes.	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes.	
63.8(c)(1)	Yes.	
63.8(c)(2)	Yes.	
63.8(c)(3)	Yes.	
63.8(c)(4)	No	Subpart S allows site specific determination of monitoring frequency in § 63.453(n)(4).
63.8(c)(5)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)	Yes.	
63.8(c)(7)	Yes.	
63.8(c)(8)	Yes.	
63.8(d)	Yes.	
63.8(e)	Yes.	
63.8(f)(1)–(5)	Yes.	
63.8(f)(6)	No	Subpart S does not specify relative accuracy test for CEM's.
63.8(g)	Yes.	
63.9(a)	Yes.	
63.9(b)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard.
63.9(c)	Yes.	
63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes.	
63.9(f)	No	Pertains to continuous opacity monitors that are not part of this standard.

TABLE 1 TO SUBPART S—GENERAL PROVISIONS APPLICABILITY TO SUBPART S [a]—Continued

Reference	Applies to Subpart S	Comment
63.9(g)(1)	Yes.	
63.9(g)(2)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(3)	No	Subpart S does not specify relative accuracy tests, therefore no notification is required for an alternative.
63.9(h)	Yes.	
63.9(i)	Yes.	
63.9(j)	Yes.	
63.10(a)	Yes.	
63.10(b)	Yes.	
63.10(c)	Yes.	
63.10(d)(1)	Yes.	
63.10(d)(2)	Yes.	
63.10(d)(3)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(d)(4)	Yes.	
63.10(d)(5)	Yes.	
63.10(e)(1)	Yes.	
63.10(e)(2)(i)	Yes.	
63.10(e)(2)(ii)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(e)(3)	Yes.	
63.10(e)(4)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(f)	Yes.	
63.11–63.15	Yes.	

[a] Wherever subpart A specifies ''postmark'' dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

3. Appendix A of part 63 is amended by adding Method 308 in numerical order to read as follows:

Appendix A to Part 63—Test Methods

* * * * *

Method 308—Procedure for Determination of Methanol Emission From Stationary Sources

1.0 Scope and Application

1.1 Analyte. Methanol. Chemical Abstract Service (CAS) No. 67–56–1.

1.2 Applicability. This method applies to the measurement of methanol emissions from specified stationary sources.

2.0 Summary of Method

A gas sample is extracted from the sampling point in the stack. The methanol is collected in deionized distilled water and adsorbed on silica gel. The sample is returned to the laboratory where the methanol in the water fraction is separated from other organic compounds with a gas chromatograph (GC) and is then measured by a flame ionization detector (FID). The fraction adsorbed on silica gel is extracted with an aqueous solution of n-propanol and is then separated and measured by GC/FID.

3.0 Definitions [Reserved]

4.0 Interferences [Reserved]

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before performing this test method.

5.2 Methanol Characteristics. Methanol is flammable and a dangerous fire and explosion risk. It is moderately toxic by ingestion and inhalation.

6.0 Equipment and Supplies

6.1 Sample Collection. The following items are required for sample collection:

6.1.1 Sampling Train. The sampling train is shown in Figure 308–1 and component parts are discussed below.

6.1.1.1 Probe. Teflon®, approximately 6-millimeter (mm) (0.24 inch) outside diameter.

6.1.1.2 Impinger. A 30-milliliter (ml) midget impinger. The impinger must be connected with leak-free glass connectors. Silicone grease may not be used to lubricate the connectors.

6.1.1.3 Adsorbent Tube. Glass tubes packed with the required amount of the specified adsorbent.

6.1.1.4 Valve. Needle valve, to regulate sample gas flow rate.

6.1.1.5 Pump. Leak-free diaphragm pump, or equivalent, to pull gas through the sampling train. Install a small surge tank between the pump and rate meter to eliminate the pulsation effect of the diaphragm pump on the rotameter.

6.1.1.6 Rate Meter. Rotameter, or equivalent, capable of measuring flow rate to within 2 percent of the selected flow rate of up to 1000 milliliter per minute (ml/min). Alternatively, the tester may use a critical orifice to set the flow rate.

6.1.1.7 Volume Meter. Dry gas meter (DGM), sufficiently accurate to measure the sample volume to within 2 percent, calibrated at the selected flow rate and conditions actually encountered during sampling, and equipped with a temperature sensor (dial thermometer, or equivalent) capable of measuring temperature accurately to within 3 °C (5.4 °F).

6.1.1.8 Barometer. Mercury (Hg), aneroid, or other barometer capable of measuring atmospheric pressure to within 2.5 mm (0.1 inch) Hg. See the NOTE in Method 5 (40 CFR part 60, appendix A), section 6.1.2.

6.1.1.9 Vacuum Gauge and Rotameter. At least 760-mm (30-inch) Hg gauge and 0- to 40-ml/min rotameter, to be used for leak-check of the sampling train.

6.2 Sample Recovery. The following items are required for sample recovery:

6.2.1 Wash Bottles. Polyethylene or glass, 500-ml, two.

6.2.2 Sample Vials. Glass, 40-ml, with Teflon®-lined septa, to store impinger samples (one per sample).

6.2.3 Graduated Cylinder. 100-ml size.

6.3 Analysis. The following are required for analysis:

6.3.1 Gas Chromatograph. GC with an FID, programmable temperature control, and heated liquid injection port.

6.3.2 Pump. Capable of pumping 100 ml/min. For flushing sample loop.

6.3.3 Flow Meter. To monitor accurately sample loop flow rate of 100 ml/min.

6.3.4 Regulators. Two-stage regulators used on gas cylinders for GC and for cylinder standards.

6.3.5 Recorder. To record, integrate, and store chromatograms.

6.3.6 Syringes. 1.0- and 10-microliter (l) size, calibrated, for injecting samples.

6.3.7 Tubing Fittings. Stainless steel, to plumb GC and gas cylinders.

6.3.8 Vials. Two 5.0-ml glass vials with screw caps fitted with Teflon®-lined septa for each sample.

6.3.9 Pipettes. Volumetric type, assorted sizes for preparing calibration standards.

6.3.10 Volumetric Flasks. Assorted sizes for preparing calibration standards.

6.3.11 Vials. Glass 40-ml with Teflon®-lined septa, to store calibration standards (one per standard).

7.0 Reagents and Standards

Note: Unless otherwise indicated, all reagents must conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society. Where such specifications are not available, use the best available grade.

7.1 Sampling. The following are required for sampling:

7.1.1 Water. Deionized distilled to conform to the American Society for Testing and Materials (ASTM) Specification D 1193–77, Type 3. At the option of the analyst, the potassium permanganate ($KMnO_4$) test for oxidizable organic matter may be omitted when high concentrations of organic matter are not expected to be present.

7.1.2 Silica Gel. Deactivated chromatographic grade 20/40 mesh silica gel packed in glass adsorbent tubes. The silica gel is packed in two sections. The front section contains 520 milligrams (mg) of silica gel, and the back section contains 260 mg.

7.2 Analysis. The following are required for analysis:

7.2.1 Water. Same as specified in section 7.1.1.

7.2.2 n-Propanol, 3 Percent. Mix 3 ml of n-propanol with 97 ml of water.

7.2.3 Methanol Stock Standard. Prepare a methanol stock standard by weighing 1 gram of methanol into a 100-ml volumetric flask. Dilute to 100 ml with water.

7.2.3.1 Methanol Working Standard. Prepare a methanol working standard by pipetting 1 ml of the methanol stock standard into a 100-ml volumetric flask. Dilute the solution to 100 ml with water.

7.2.3.2 Methanol Standards For Impinger Samples. Prepare a series of methanol standards by pipetting 1, 2, 5, 10, and 25 ml of methanol working standard solution respectively into five 50-ml volumetric flasks. Dilute the solutions to 50 ml with water. These standards will have 2, 4, 10, 20, and 50 µg/ml of methanol, respectively. After preparation, transfer the solutions to 40-ml glass vials capped with Teflon® septa and store the vials under refrigeration. Discard any excess solution.

7.2.3.3 Methanol Standards for Adsorbent Tube Samples. Prepare a series of methanol standards by first pipetting 10 ml of the methanol working standard into a 100-ml volumetric flask and diluting the contents to exactly 100 ml with 3 percent n-propanol solution. This standard will contain 10 µg/ml of methanol. Pipette 5, 15, and 25 ml of this standard, respectively, into four 50-ml volumetric flasks. Dilute each solution to 50 ml with 3 percent n-propanol solution. These standards will have 1, 3, and 5 µg/ml of methanol, respectively. Transfer all four standards into 40-ml glass vials capped with Teflon®-lined septa and store under refrigeration. Discard any excess solution.

7.2.4 GC Column. Capillary column, 30 meters (100 feet) long with an inside diameter (ID) of 0.53 mm (0.02 inch), coated with DB 624 to a film thickness of 3.0 micrometers, (µm) or an equivalent column. Alternatively, a 30-meter capillary column coated with polyethylene glycol to a film thickness of 1 µm such as AT–WAX or its equivalent.

7.2.5 Helium. Ultra high purity.

7.2.6 Hydrogen. Zero grade.

7.2.7 Oxygen. Zero grade.

8.0 Procedure

8.1 Sampling. The following items are required for sampling:

8.1.1 Preparation of Collection Train. Measure 20 ml of water into the midget impinger. The adsorbent tube must contain 520 mg of silica gel in the front section and 260 mg of silica gel in the backup section. Assemble the train as shown in Figure 308–1. An optional, second impinger that is left empty may be placed in front of the water-containing impinger to act as a condensate trap. Place crushed ice and water around the impinger.

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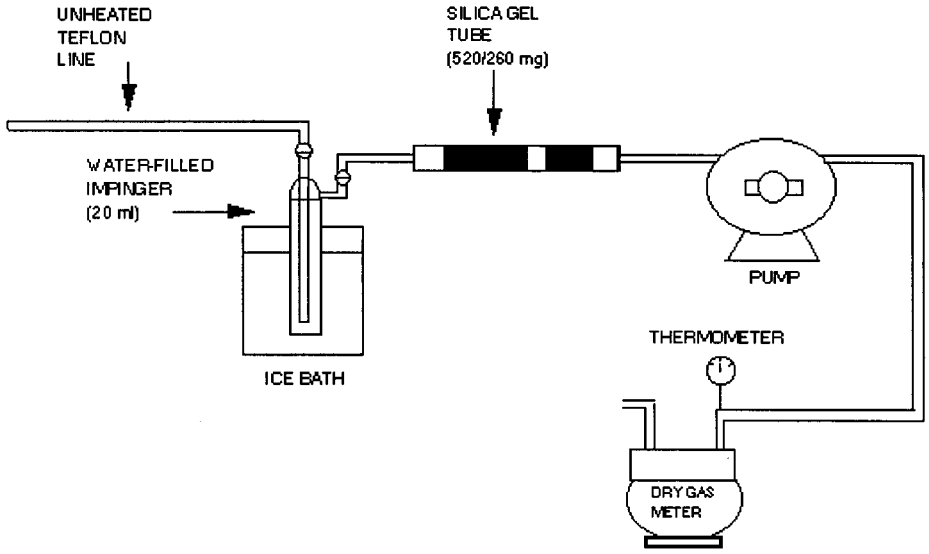

Figure 308.1. Sampling train schematic

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8.1.2 Leak Check. A leak check prior to the sampling run is optional; however, a leak check after the sampling run is mandatory. The leak-check procedure is as follows:

Temporarily attach a suitable (e.g., 0- to 40-ml/min) rotameter to the outlet of the DGM, and place a vacuum gauge at or near the probe inlet. Plug the probe inlet, pull a vacuum of at least 250 mm (10 inch) Hg, and note the flow rate as indicated by the rotameter. A leakage rate not in excess of 2 percent of the average sampling rate is acceptable.

Note: Carefully release the probe inlet plug before turning off the pump.

8.1.3 Sample Collection. Record the initial DGM reading and barometric pressure. To begin sampling, position the tip of the Teflon® tubing at the sampling point, connect the tubing to the impinger, and start the pump. Adjust the sample flow to a constant rate between 200 and 1000 ml/min as indicated by the rotameter. Maintain this constant rate (±10 percent) during the entire sampling run. Take readings (DGM, temperatures at DGM and at impinger outlet, and rate meter) at least every 5 minutes. Add more ice during the run to keep the temperature of the gases leaving the last impinger at 20 °C (68 °F) or less. At the conclusion of each run, turn off the pump, remove the Teflon® tubing from the stack, and record the final readings. Conduct a leak check as in section 8.1.2. (This leak check is mandatory.) If a leak is found, void the test run or use procedures acceptable to the Administrator to adjust the sample volume for the leakage.

8.2 Sample Recovery. The following items are required for sample recovery:

8.2.1 Impinger. Disconnect the impinger. Pour the contents of the midget impinger into a graduated cylinder. Rinse the midget impinger and the connecting tubes with water, and add the rinses to the graduated cylinder. Record the sample volume. Transfer the sample to a glass vial and cap with a Teflon® septum. Discard any excess sample. Place the samples in an ice chest for shipment to the laboratory.

8.2.2. Adsorbent Tubes. Seal the silica gel adsorbent tubes and place them in an ice chest for shipment to the laboratory.

9.0 Quality Control

9.1 Miscellaneous Quality Control Measures. The following quality control measures are required:

Section	Quality control measure	Effect
8.1.2, 8.1.3, 10.1.	Sampling equipment leak check and calibration.	Ensures accurate measurement of sample volume.
10.2	GC calibration ..	Ensures precision of GC analysis.

9.2 Applicability. When the method is used to analyze samples to demonstrate compliance with a source emission regulation, an audit sample must be analyzed, subject to availability.

9.3 Audit Procedure. Analyze an audit sample with each set of compliance samples. Concurrently analyze the audit sample and a set of compliance samples in the same manner to evaluate the technique of the analyst and the standards preparation. The same analyst, analytical reagents, and analytical system shall be used both for the compliance samples and the EPA audit sample.

9.4 Audit Sample Availability. Audit samples will be supplied only to enforcement agencies for compliance tests. Audit samples may be obtained by writing: Source Test Audit Coordinator (MD–77B), Air Measurement Research Division, National Exposure Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; or by calling the Source Test Audit Coordinator (STAC) at (919) 541–7834. The audit sample request must be made at least 30 days prior to the scheduled compliance sample analysis.

9.5 Audit Results. Calculate the audit sample concentration according to the calculation procedure provided in the audit instructions included with the audit sample. Fill in the audit sample concentration and the analyst's name on the audit response form included with the audit instructions. Send one copy to the EPA Regional Office or the appropriate enforcement agency and a second copy to the STAC. The EPA Regional office or the appropriate enforcement agency will report the results of the audit to the laboratory being audited. Include this response with the results of the compliance samples in relevant reports to the EPA Regional Office or the appropriate enforcement agency.

10.0 Calibration and Standardization

10.1 Metering System. The following items are required for the metering system:

10.1.1 Initial Calibration.

10.1.1.1 Before its initial use in the field, first leak-check the metering system (drying tube, needle valve, pump, rotameter, and DGM) as follows: Place a vacuum gauge at the inlet to the drying tube, and pull a vacuum of 250 mm (10 inch) Hg; plug or pinch off the outlet of the flow meter, and then turn off the pump. The vacuum shall remain stable for at least 30 seconds. Carefully release the vacuum gauge before releasing the flow meter end.

10.1.1.2 Next, remove the drying tube, and calibrate the metering system (at the sampling flow rate specified by the method) as follows: Connect an appropriately sized wet test meter (e.g., 1 liter per revolution (0.035 cubic feet per revolution)) to the inlet of the drying tube. Make three independent calibrations runs, using at least five revolutions of the DGM per run. Calculate the calibration factor, Y (wet test meter calibration volume divided by the DGM volume, both volumes adjusted to the same reference temperature and pressure), for each run, and average the results. If any Y-value deviates by more than 2 percent from the average, the metering system is unacceptable for use. Otherwise, use the average as the calibration factor for subsequent test runs.

10.1.2 Posttest Calibration Check. After each field test series, conduct a calibration check as in section 10.1.1 above, except for the following variations: (a) The leak check is not to be conducted, (b) three, or more revolutions of the DGM may be used, and (c) only two independent runs need be made. If the calibration factor does not deviate by more than 5 percent from the initial calibration factor (determined in section 10.1.1), then the DGM volumes obtained during the test series are acceptable. If the calibration factor deviates by more than 5 percent, recalibrate the metering system as in section 10.1.1, and for the calculations, use the calibration factor (initial or recalibration) that yields the lower gas volume for each test run.

10.1.3 Temperature Sensors. Calibrate against mercury-in-glass thermometers.

10.1.4 Rotameter. The rotameter need not be calibrated, but should be cleaned and maintained according to the manufacturer's instruction.

10.1.5 Barometer. Calibrate against a mercury barometer.

10.2 Gas Chromatograph. The following procedures are required for the gas chromatograph:

10.2.1 Initial Calibration. Inject 1 µl of each of the standards prepared in sections 7.2.3.3 and 7.2.3.4 into the GC and record the response. Repeat the injections for each standard until two successive injections agree within 5 percent. Using the mean response for

each calibration standard, prepare a linear least squares equation relating the response to the mass of methanol in the sample. Perform the calibration before analyzing each set of samples.

10.2.2 Continuing Calibration. At the beginning of each day, analyze the mid level calibration standard as described in section 10.5.1. The response from the daily analysis must agree with the response from the initial calibration within 10 percent. If it does not, the initial calibration must be repeated.

11.0 Analytical Procedure

11.1 Gas Chromatograph Operating Conditions. The following operating conditions are required for the GC:

11.1.1 Injector. Configured for capillary column, splitless, 200 °C (392 °F).

11.1.2 Carrier. Helium at 10 ml/min.

11.1.3 Oven. Initially at 45 °C for 3 minutes; then raise by 10 °C to 70 °C; then raise by 70 °C/min to 200 °C.

11.2 Impinger Sample. Inject 1 µl of the stored sample into the GC. Repeat the injection and average the results. If the sample response is above that of the highest calibration standard, either dilute the sample until it is in the measurement range of the calibration line or prepare additional calibration standards. If the sample response is below that of the lowest calibration standard, prepare additional calibration standards. If additional calibration standards are prepared, there shall be at least two that bracket the response of the sample. These standards should produce approximately 50 percent and 150 percent of the response of the sample.

11.3 Silica Gel Adsorbent Sample. The following items are required for the silica gel adsorbent samples:

11.3.1 Preparation of Samples. Extract the front and backup sections of the adsorbent tube separately. With a file, score the glass adsorbent tube in front of the first section of silica gel. Break the tube open. Remove and discard the glass wool. Transfer the first section of the silica gel to a 5-ml glass vial and stopper the vial. Remove the spacer between the first and second section of the adsorbent tube and discard it. Transfer the second section of silica gel to a separate 5-ml glass vial and stopper the vial.

11.3.2 Desorption of Samples. Add 3 ml of the 10 percent n-propanol solution to each of the stoppered vials and shake or vibrate the vials for 30 minutes.

11.3.3 Inject a 1-µl aliquot of the diluted sample from each vial into the GC. Repeat the injection and average the results. If the sample response is above that of the highest calibration standard, either dilute the sample until it is in the measurement range of the calibration line or prepare additional calibration standards. If the sample response is below that of the lowest calibration standard, prepare additional calibration standards. If additional calibration standards are prepared, there shall be at least two that bracket the response of the sample. These standards should produce approximately 50 percent and 150 percent of the response of the sample.

12.0 Data Analysis and Calculations

12.1 Nomenclature.

C_{af}=Concentration of methanol in the front of the adsorbent tube, µg/ml.

C_{ab}=Concentration of methanol in the back of the adsorbent tube, µg/ml.

C_i=Concentration of methanol in the impinger portion of the sample train, µg/ml.

E=Mass emission rate of methanol, µg/hr (lb/hr).

M_{tot}=Total mass of methanol collected in the sample train, µg.

P_{bar}=Barometric pressure at the exit orifice of the DGM, mm Hg (in. Hg).

P_{std}=Standard absolute pressure, 760 mm Hg (29.92 in. Hg).

Q_{std}=Dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr).

T_m=Average DGM absolute temperature, degrees K (°R).

T_{std}=Standard absolute temperature, 293 degrees K (528 °R).

V_{af}=Volume of front half adsorbent sample, ml.

V_{ab}=Volume of back half adsorbent sample, ml.

V_i=Volume of impinger sample, ml.

V_m=Dry gas volume as measured by the DGM, dry cubic meters (dcm), dry cubic feet (dcf).

$V_{m(std)}$=Dry gas volume measured by the DGM, corrected to standard conditions, dry standard cubic meters (dscm), dry standard cubic feet (dscf).

12.2 Mass of Methanol. Calculate the total mass of methanol collected in the sampling train using Equation 308–1.

$$M_{tot} = V_i C_i + V_{af} C_{af} + V_{ab} C_{ab} \qquad \text{Equation 308-1}$$

12.3 Dry Sample Gas Volume, Corrected to Standard Conditions. Calculate the volume of gas sampled at standard conditions using Equation 308–2.

$$V_m(std) = \frac{V_m Y T_{std} P_{bar}}{T_m P_{std}} \qquad \text{Equation 308-2}$$

12.4 Mass Emission Rate of Methanol. Calculate the mass emission rate of methanol using Equation 308–3.

$$E = \frac{M_{tot} Q_{sd}}{V_{m(std)}} \qquad \text{Equation 308-3}$$

13.0 Method Performance [Reserved]

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 Bibliography

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4. Yu, K.K. ''Evaluation of Moisture Effect on Dry Gas Meter Calibration.'' Source Evaluation Society Newsletter. *5*(1) :24–28. February 1980.

5. NIOSH Manual of Analytical Methods, Volume 2. U.S. Department of Health and Human Services National Institute for Occupational Safety and Health. Center for Disease Control. 4676

Columbia Parkway, Cincinnati, OH 45226. (available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

6. Pinkerton, J.E. ''Method for Measuring Methanol in Pulp Mill Vent Gases.'' National Council of the Pulp and Paper Industry for Air and Stream Improvement, Inc., New York, NY.

17.0 Tables, Diagrams, Flowcharts, and Validation Data

[Reserved].

* * * * *

PART 261—[AMENDED]

1. The authority citation of part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

2. Section 261.4 is amended by adding paragraph (a) (15) to read as follows:

§ 261.4 Exclusions.

(a) * * *

(15) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates.

* * * * *

1. Part 430 is revised to read as follows:

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

General Provisions

Sec.

Subpart A—Dissolving Kraft Subcategory

Sec.

Subpart B—Bleached Papergrade Kraft and Soda Subcategory

Sec.

Subpart C—Unbleached Kraft Subcategory

Sec.

Subpart D—Dissolving Sulfite Subcategory

Sec.

Subpart E—Papergrade Sulfite Subcategory

Sec.

Subpart F—Semi-Chemical Subcategory

Sec.

Subpart G—Mechanical Pulp Subcategory

Sec.

Authority: Sections 301, 304, 306, 307, 308, 402, and 501 of the Clean Water Act, as amended, (33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342, and 1361), and Section 112 of the Clean Air Act, as amended (42 U.S.C. 7412).

General Provisions

§ 430.00 Applicability.

(a) This part applies to any pulp, paper, or paperboard mill that discharges or may discharge process wastewater pollutants to the waters of the United States, or that introduces or may introduce process wastewater pollutants into a publicly owned treatment works.

(b) The following table presents the subcategorization scheme codified in this part, with references to former subpart designations contained in the 1997 edition of 40 CFR parts 425 through 699:

SUBCATEGORIZATION SCHEME WITH REFERENCES TO FORMER SUBPARTS CONTAINED IN THE JULY 1, 1997 EDITION OF 40 CFR PARTS 425 THROUGH 699

Final codified subpart	Final subcategorization scheme	Types of products covered in the subpart
A	Dissolving Kraft	Dissolving pulp at kraft mills (F[a])
B	Bleached Papergrade Kraft and Soda.	Market pulp at bleached kraft mills (G[a]); paperboard, coarse paper, and tissue paper at bleached kraft mills (H[a]); pulp and fine papers at bleached kraft mills (I[a]); and pulp and paper at soda mills (P[a]).
C	Unbleached Kraft	Pulp and paper at unbleached kraft mills including linerboard or bag paper and other mixed products (A[a]); pulp and paper using the unbleached kraft-neutral sulfite semi-chemical (cross recovery) process (D[a]); and pulp and paper at combined unbleached kraft and semi-chemical mills, wherein the spent semi-chemical cooking liquor is burned within the unbleached kraft chemical recovery system (V[a]).
D	Dissolving Sulfite	Pulp at dissolving sulfite mills for the following grades: nitration, viscose, cellophane, and acetate (K[a]).
E	Papergrade Sulfite —Calcium-, Magnesium-, or Sodium-based pulps. —Ammonium-based pulps. —Specialty grade pulps.	Pulp and paper at papergrade sulfite mills where blow pit pulp washing techniques are used (J[a]) and pulp and paper at papergrade sulfite mills where vacuum or pressure drums are used to wash pulp (U[a]).
F	Semi-Chemical	Pulp and paper at semi-chemical mills using an ammonia base or a sodium base (B[a]).
G	Mechanical Pulp	Pulp and paper at groundwood chemi-mechanical mills (L[a]); pulp and paper at groundwood mills through the application of the thermo-mechanical process (M[a]); pulp and coarse paper, molded pulp products, and newsprint at groundwood mills (N[a]); and pulp and fine paper at groundwood mills (O[a]).
H	Non-Wood Chemical Pulp	Pulp and paper at non-wood chemical pulp mills.
I	Secondary Fiber Deink	Pulp and paper at deink mills including fine papers, tissue papers, or newsprint (Q[a]).
J	Secondary Fiber Non-Deink	Paperboard from wastepaper from noncorrugating medium furnish or from corrugating medium furnish (E[a]); tissue paper from wastepaper without deinking at secondary fiber mills (T[a]); molded products from wastepaper without deinking (W[a]); and builders' paper and roofing felt from wastepaper (40 CFR Part 431, Subpart A[a]).
K	Fine and Lightweight Papers from Purchased Pulp.	Fine Papers at nonintegrated mills using wood fiber furnish or cotton fiber furnish (R[a]); and lightweight papers at nonintegrated mills or lightweight electrical papers at nonintegrated mills (X[a]).
L	Tissue, Filter, Non-woven, and Paperboard from Purchased Pulp.	Tissue papers at nonintegrated mills (S[a]); filter and non-woven papers at nonintegrated mills (Y[a]); and paperboard at nonintegrated mills (Z[a]).

[a] This subpart is contained in the 40 CFR parts 425 through 699, edition revised as of July 1, 1997.

§ 430.01 General definitions.

In addition to the definitions set forth in 40 CFR part 401 and 40 CFR 403.3, the following definitions apply to this part:

(a) *Adsorbable organic halides (AOX).* A bulk parameter that measures the total mass of chlorinated organic matter in water and wastewater.

(b) *Annual average.* The mean concentration, mass loading or production-normalized mass loading of a pollutant over a period of 365 consecutive days (or such other period of time determined by the permitting authority to be sufficiently long to encompass expected variability of the concentration, mass loading, or production-normalized mass loading at the relevant point of measurement).

(c) *Bleach plant.* All process equipment used for bleaching beginning with the first application of bleaching agents (e.g., chlorine, chlorine dioxide, ozone, sodium or calcium hypochlorite, or peroxide), each subsequent extraction stage, and each subsequent stage where bleaching agents are applied to the pulp. For mills in Subpart E of this part producing specialty grades of pulp, the bleach plant includes process equipment used for the hydrolysis or extraction stages prior to the first application of bleaching agents. Process equipment used for oxygen delignification prior to the application of bleaching agents is not part of the bleach plant.

(d) *Bleach plant effluent.* The total discharge of process wastewaters from the bleach plant from each physical bleach line operated at the mill, comprising separate acid and alkaline filtrates or the combination thereof.

(e) *Chemical oxygen demand (COD).* A bulk parameter that measures the oxygen-consuming capacity of organic and inorganic matter present in water or wastewater. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test.

(f) *Elemental chlorine-free (ECF).* Any process for bleaching pulps in the absence of elemental chlorine and hypochlorite that uses exclusively chlorine dioxide as the only chlorine-containing bleaching agent.

(g) *End of the pipe.* The point at which final mill effluent is discharged to waters of the United States or introduced to a POTW.

(h) *Fiber line.* A series of operations employed to convert wood or other fibrous raw material into pulp. If the final product is bleached pulp, the fiber line encompasses pulping, de-knotting, brownstock washing, pulp screening, centrifugal cleaning, and multiple bleaching and washing stages.

(i) *Minimum level (ML).* The level at which the analytical system gives recognizable signals and an acceptable calibration point. The following minimum levels apply to pollutants in this part.

Pollutant	Method	Minimum level
2,3,7,8-TCDD	1613	10 pg/L [a]
2,3,7,8-TCDF	1613	10 pg/L [a]
Trichlorosyringol	1653	2.5 ug/L [b]
3,4,5-Trichlorocatechol	1653	5.0 ug/L [b]
3,4,6-Trichlorocatechol	1653	5.0 ug/L [b]
3,4,5-Trichloroguaiacol	1653	2.5 ug/L [b]
3,4,6-Trichloroguaiacol	1653	2.5 ug/L [b]
4,5,6-Trichloroguaiacol	1653	2.5 ug/L [b]
2,4,5-Trichlorophenol	1653	2.5 ug/L [b]
2,4,6-Trichlorophenol	1653	2.5 ug/L [b]
Tetrachlorocatechol	1653	5.0 ug/L [b]
Tetrachloroguaiacol	1653	5.0 ug/L [b]
2,3,4,6-Tetrachlorophenol	1653	2.5 ug/L [b]
Pentachlorophenol	1653	5.0 ug/L [b]
AOX	1650	20 ug/L [b]

[a] Picograms per liter.
[b] Micrograms per liter.

(j) *New source.* (1) Notwithstanding the criteria codified at 40 CFR 122.29(b)(1), a source subject to subpart B or E of this part is a ''new source'' if it meets the definition of ''new source'' at 40 CFR 122.2 and:

(i) It is constructed at a site at which no other source is located; or

(ii) It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source, including the total replacement of a fiber line that causes the discharge of pollutants at an existing source, except as provided in paragraph (j)(2) of this section; or

(iii) Its processes are substantially independent of an existing source at the same site. In determining whether these processes are substantially independent, the Director shall consider such factors as the extent to which the new facility is integrated with the existing plant; and the extent to which the new facility is engaged in the same general type of activity as the existing source.

(2) The following are examples of changes made by mills subject to subparts B or E of this part that alone do not cause an existing mill to become a ''new source'':

(i) Upgrades of existing pulping operations;

(ii) Upgrades or replacement of pulp screening and washing operations;

(iii) Installation of extended cooking and/or oxygen delignification systems or other post-digester, pre-bleaching delignification systems;

(iv) Bleach plant modifications including changes in methods or amounts of chemical applications, new chemical applications, installation of new bleaching towers to facilitate replacement of sodium or calcium hypochlorite, and installation of new pulp washing systems; or

(v) Total replacement of process or production equipment that causes the discharge of pollutants at an existing source (including a replacement fiber line), but only if such replacement is performed for the purpose of achieving limitations that have been included in the discharger's NPDES permit pursuant to § 430.24(b).

(k) *Non-continuous discharger.* (1) Except as provided in paragraph (k)(2) of this section, a non-continuous discharger is a mill which is prohibited by the NPDES authority from discharging pollutants during specific periods of time for reasons other than treatment plant upset control, such periods being at least 24 hours in duration. A mill shall not be deemed a non-continuous discharger unless its permit, in addition to setting forth the prohibition described above, requires compliance with the effluent limitations established for non-continuous dischargers and also requires compliance with maximum day and average of 30 consecutive days effluent limitations. Such maximum day and average of 30 consecutive days effluent limitations for non-continuous dischargers shall be established by the NPDES authority in the form of concentrations which reflect wastewater treatment levels that are representative of the application of the best practicable control technology currently available, the best conventional pollutant control technology, or new source performance standards in lieu of the maximum day and average of 30 consecutive days effluent limitations for conventional pollutants set forth in each subpart.

(2) A mill is a non-continuous discharger for the purposes of determining applicable effluent limitations under subpart B or E of this part (other than conventional limits for existing sources) if, for reasons other than treatment plant upset control (e.g., protecting receiving water quality), the mill is prohibited by the NPDES authority from discharging pollutants during specific periods of time or if it is required to release its discharge on a variable flow or pollutant loading rate basis.

(l) *POTW.* Publicly owned treatment works as defined at 40 CFR 403.3(o).

(m) *Process wastewater.* For subparts B and E only, process wastewater is any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. For purposes of subparts B and E of this part, process wastewater includes boiler blowdown; wastewaters from water treatment and other utility operations; blowdowns from high rate (e.g., greater than 98 percent) recycled non-contact cooling water systems to the extent they are mixed and co-treated with other process wastewaters; wastewater, including leachates, from landfills owned by pulp and paper mills subject to subpart B or E of this part if the wastewater is commingled with wastewater from the mill's manufacturing or processing facility; and storm waters from the immediate process areas to the extent they are mixed and co-treated with other process wastewaters. For purposes of this part, contaminated groundwaters from on-site or off-site groundwater remediation projects are not process wastewater.

(n) *Production.* (1) For all limitations and standards specified in this part except those pertaining to AOX and chloroform: Production shall be defined as the annual off-the-machine production (including off-the-machine coating where applicable) divided by the number of operating days during that year. Paper and paperboard production shall be measured at the off-the-machine moisture content, except for subpart C of this part (as it pertains to pulp and paperboard production at

unbleached kraft mills including linerboard or bag paper and other mixed products, and to pulp and paperboard production using the unbleached kraft neutral sulfite semi-chemical (cross recovery) process), and subparts F and J of this part (as they pertain to paperboard production from wastepaper from noncorrugating medium furnish or from corrugating medium furnish) where paper and paperboard production shall be measured in air-dry-tons (10% moisture content). Market pulp shall be measured in air-dry tons (10% moisture). Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(2) For AOX and chloroform limitations and standards specified in subparts B and E of this part: Production shall be defined as the annual unbleached pulp production entering the first stage of the bleach plant divided by the number of operating days during that year. Unbleached pulp production shall be measured in air-dried-metric-tons (10% moisture) of brownstock pulp entering the bleach plant at the stage during which chlorine or chlorine-containing compounds are first applied to the pulp. In the case of bleach plants that use totally chlorine free bleaching processes, unbleached pulp production shall be measured in air-dried-metric tons (10% moisture) of brownstock pulp entering the first stage of the bleach plant from which wastewater is discharged. Production shall be determined for each mill based upon past production practices, present trends, or committed growth.

(o) *TCDD.* 2,3,7,8-tetrachlorodibenzo-p-dioxin.

(p) *TCDF.* 2,3,7,8-tetrachlorodibenzo-p-furan.

(q) *Totally chlorine-free (TCF) bleaching.* Pulp bleaching operations that are performed without the use of chlorine, sodium hypochlorite, calcium hypochlorite, chlorine dioxide, chlorine monoxide, or any other chlorine-containing compound.

(r) *Wet Barking.* Wet barking operations shall be defined to 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.

§ 430.02 Monitoring requirements.

This section establishes minimum monitoring frequencies for certain pollutants. Where no monitoring frequency is specified in this section or where the duration of the minimum monitoring frequency has expired under paragraphs (b) through (e) of this section, the permit writer or pretreatment control authority shall determine the appropriate monitoring frequency in accordance with 40 CFR 122.44(i) or 40 CFR part 403, as applicable.

(a) *BAT, NSPS, PSES, and PSNS monitoring frequency for chlorinated organic pollutants.* The following monitoring frequencies apply to discharges subject to subpart B or subpart E of this part:

CAS number	Pollutant	Minimum monitoring frequency	
		Non-TCF[a]	TCF[b]
1198556	Tetrachlorocatechol	Monthly	(c)
2539175	Tetrachloroguaiacol	Monthly	(c)
2539266	Trichlorosyringol	Monthly	(c)
2668248	4,5,6-trichloroguaiacol	Monthly	(c)
32139723	3,4,6-trichlorocatechol	Monthly	(c)
56961207	3,4,5-trichlorocatechol	Monthly	(c)
57057837	3,4,5-trichloroguaiacol	Monthly	(c)
58902	2,3,4,6-tetrachlorophenol	Monthly	(c)
60712449	3,4,6-trichloroguaiacol	Monthly	(c)
87865	Pentachlorophenol[d]	Monthly	(c)
88062	2,4,6-trichlorophenol[d]	Monthly	(c)
95954	2,4,5-trichlorophenol[d]	Monthly	(c)
1746016	2,3,7,8-TCDD	Monthly	(c)
51207319	2,3,7,8-TCDF	Monthly	(c)
67663	chloroform[e]	Weekly	(c)
59473040	AOX[f]	Daily	None specified.

[a] Non-TCF: Pertains to any fiber line that does not use exclusively TCF bleaching processes.

[b] TCF: Pertains to any fiber line that uses exclusively TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22 or, for indirect dischargers, as reported to the pretreatment control authority under 40 CFR 403.12 (b), (d), or (e).

[c] This regulation does not specify a limit for this pollutant for TCF bleaching processes.

[d] Monitoring frequency does not apply to this compound when used as a biocide. The permitting or pretreatment control authority must determine the appropriate monitoring frequency for this compound, when used as a biocide, under 40 CFR 122.44(i) or 40 CFR Part 403, as applicable.

[e] This regulation does not specify a limit for this pollutant for Subpart E mills.

[f] This regulation does not specify a limit for this pollutant for the ammonium-based or specialty grade sulfite pulp segments of Subpart E.

(b) *Duration of required monitoring for BAT, NSPS, PSES, and PSNS.* The monitoring frequencies specified in paragraph (a) of this section apply for the following time periods:

(1) For direct dischargers, a duration of five years commencing on the date the applicable limitations or standards from subpart B or subpart E of this part are first included in the discharger's NPDES permit;

(2) For existing indirect dischargers, until April 17, 2006;

(3) For new indirect dischargers, a duration of five years commencing on the date the indirect discharger commences operation.

(c) *Reduced monitoring frequencies for bleach plant pollutants under the Voluntary Advanced Technology Incentives Program.* The following monitoring frequencies apply to mills enrolled in the Voluntary Advanced Technology Incentives Program established under subpart B of this part for a duration of five years commencing after achievement of the applicable BAT limitations specified in § 430.24(b)(3) or NSPS specified in § 430.25(c)(1) for the following pollutants, except as noted in footnote f:

CAS number	Pollutant	Minimum monitoring frequency		
		Non-ECF [a]	Advanced ECF [b,f]	TCF [c]
1198556 ...	Tetrachlorocatechol	Monthly	Monthly	[d]
2539175 ...	Tetrachloroguiacol	Monthly	Monthly	[d]
2539266 ...	Trichlorosyringol	Monthly	Monthly	[d]
2668248 ...	4,5,6-trichloroguaiacol	Monthly	Monthly	[d]
32139723	3,4,6-trichlorocatechol	Monthly	Monthly	[d]
56961207	3,4,5-trichlorocatechol	Monthly	Monthly	[d]
57057837	3,4,5-trichloroguaiacol	Monthly	Monthly	[d]
58902	2,3,4,6-tetrachlorophenol	Monthly	Monthly	[d]
60712449	3,4,6-trichloroguaiacol	Monthly	Monthly	[d]
87865	Pentachlorophenol [e]	Monthly	Monthly	[d]
88062	2,4,6-trichlorophenol [e]	Monthly	Monthly	[d]
95954	2,4,5-trichlorophenol [e]	Monthly	Monthly	[d]
1746016 ...	2,3,7,8-TCDD	Monthly	Monthly	[d]
51207319	2,3,7,8-TCDF	Monthly	Monthly	[d]
67663	Chloroform	Weekly	Monthly	[d]

[a] Non-ECF: Pertains to any fiber line that does not use exclusively ECF or TCF bleaching processes.
[b] Advanced ECF: Pertains to any fiber line that uses exclusively Advanced ECF bleaching processes, or exclusively ECF and TCF bleaching processes as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22. Advanced ECF consists of the use of extended delignification or other technologies that achieve at least the Tier I performance levels specified in § 430.24(b)(4)(i).
[c] TCF: Pertains to any fiber line that uses exclusively TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22.
[d] This regulation does not specify a limit for this pollutant for TCF bleaching processes.
[e] Monitoring frequency does not apply to this compound when used as a biocide. The permitting authority must determine the appropriate monitoring frequency for this compound, when used as a biocide, under 40 CFR 122.44(i).
[f] Monitoring requirements for these pollutants by mills certifying as Advanced ECF in their NPDES permit application or other communication to the permitting authority will be suspended after one year of monitoring. The permitting authority must determine the appropriate monitoring frequency for these pollutants beyond that time under 40 CFR 122.44(i).

(d) *Reduced monitoring frequencies for AOX under the Voluntary Advanced Technology Incentives Program (year one).* The following monitoring frequencies apply to direct dischargers enrolled in the Voluntary Advanced Technology Incentives Program established under Subpart B of this part for a duration of one year after achievement of the applicable BAT limitations specified in § 430.24(b)(4)(i) or NSPS specified in § 430.25(c)(2):

CAS number	Pollutant	Non-ECF, any tier [a]	Advanced ECF, any tier [b]	TCF, any tier [c]
59473040	AOX	Daily	Weekly	None specified.

[a] Non-ECF: Pertains to any fiber line that does not use exclusively ECF or TCF bleaching processes.
[b] Advanced ECF: Pertains to any fiber line that uses exclusively Advanced ECF bleaching processes or exclusively ECF and TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22. Advanced ECF consists of the use of extended delignification or other technologies that achieve at least the Tier I performance levels specified in § 430.24(b)(4)(i).
[c] TCF: Pertains to any fiber line that uses exclusively TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22.

(e) *Reduced monitoring frequencies for AOX under the Voluntary Advanced Technology Incentives Program (years two through five).* The following monitoring frequencies apply to mills enrolled in the Voluntary Advanced Technology Incentives Program established under Subpart B of this part for a duration of four years starting one year after achievement of the applicable BAT limitations specified in § 430.24(b)(4)(i) or NSPS specified in § 430.25(c)(2):

CAS number	Pollutant	Non-ECF any tier [a]	Advanced ECF—tier I [b]	Advanced ECF—tier II [b]	Advanced ECF—tier III [b]	TCF—any tier [c]
59473040	AOX	Daily	Monthly	Quarterly	Annually	None specified.

[a] Non-ECF: Pertains to any fiber line that does not use exclusively ECF or TCF bleaching processes.
[b] Advanced ECF: Pertains to any fiber line that uses exclusively Advanced ECF bleaching processes or exclusively ECF and TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22. Advanced ECF consists of the use of extended delignification or other technologies that achieve at least the Tier I performance levels specified in § 430.24(b)(4)(i).
[c] TCF: Pertains to any fiber line that uses exclusively TCF bleaching processes, as disclosed by the discharger in its permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22.

§ 430.03 Best management practices (BMPs) for spent pulping liquor, soap, and turpentine management, spill prevention, and control.

(a) *Applicability.* This section applies to direct and indirect discharging pulp, paper, and paperboard mills with pulp production in subparts B (Bleached Papergrade Kraft and Soda) and E (Papergrade Sulfite).

(b) *Specialized definitions.* (1) *Action Level:* A daily pollutant loading that when exceeded triggers investigative or corrective action. Mills determine action levels by a statistical analysis of six months of daily measurements collected at the mill. For example, the lower action level may be the 75th percentile of the running seven-day averages (that value exceeded by 25 percent of the running seven-day averages) and the upper action level may be the 90th percentile of the running seven-day averages (that value exceeded by 10 percent of the running seven-day averages).

(2) *Equipment Items in Spent Pulping Liquor, Soap, and Turpentine Service:* Any process vessel, storage tank, pumping system, evaporator, heat exchanger, recovery furnace or boiler, pipeline, valve, fitting, or other device that contains, processes, transports, or comes into contact with spent pulping liquor, soap, or turpentine. Sometimes referred to as ''equipment items.''

(3) *Immediate Process Area:* The location at the mill where pulping, screening, knotting, pulp washing, pulping liquor concentration, pulping liquor processing, and chemical recovery facilities are located, generally the battery limits of the aforementioned processes. ''Immediate process area'' includes spent pulping liquor storage and spill control tanks located at the mill, whether or not they are located in the immediate process area.

(4) *Intentional Diversion:* The planned removal of spent pulping liquor, soap, or turpentine from equipment items in spent pulping liquor, soap, or turpentine service by the mill for any purpose including, but not limited to, maintenance, grade changes, or process shutdowns.

(5) *Mill:* The owner or operator of a direct or indirect discharging pulp, paper, or paperboard manufacturing facility subject to this section.

(6) *Senior Technical Manager:* The person designated by the mill manager to review the BMP Plan. The senior technical manager shall be the chief engineer at the mill, the manager of pulping and chemical recovery operations, or other such responsible person designated by the mill manager who has knowledge of and responsibility for pulping and chemical recovery operations.

(7) *Soap:* The product of reaction between the alkali in kraft pulping liquor and fatty acid portions of the wood, which precipitate out when water is evaporated from the spent pulping liquor.

(8) *Spent Pulping Liquor:* For kraft and soda mills ''spent pulping liquor'' means black liquor that is used, generated, stored, or processed at any point in the pulping and chemical recovery processes. For sulfite mills ''spent pulping liquor'' means any intermediate, final, or used chemical solution that is used, generated, stored, or processed at any point in the sulfite pulping and chemical recovery processes (e.g., ammonium-, calcium-, magnesium-, or sodium-based sulfite liquors).

(9) *Turpentine:* A mixture of terpenes, principally pinene, obtained by the steam distillation of pine gum recovered from the condensation of digester relief gases from the cooking of softwoods by the kraft pulping process. Sometimes referred to as sulfate turpentine.

(c) *Requirement to implement Best Management Practices.* Each mill subject to this section must implement the Best Management Practices (BMPs) specified in paragraphs (c)(1) through (10) of this section. The primary objective of the BMPs is to prevent leaks and spills of spent pulping liquors, soap, and turpentine. The secondary objective is to contain, collect, and recover at the immediate process area, or otherwise control, those leaks, spills, and intentional diversions of spent pulping liquor, soap, and turpentine that do occur. BMPs must be developed according to best engineering practices and must be implemented in a manner that takes into account the specific circumstances at each mill. The BMPs are as follows:

(1) The mill must return spilled or diverted spent pulping liquors, soap, and turpentine to the process to the maximum extent practicable as determined by the mill, recover such materials outside the process, or discharge spilled or diverted material at a rate that does not disrupt the receiving wastewater treatment system.

(2) The mill must establish a program to identify and repair leaking equipment items. This program must include:

(i) Regular visual inspections (e.g., once per day) of process areas with equipment items in spent pulping liquor, soap, and turpentine service;

(ii) Immediate repairs of leaking equipment items, when possible. Leaking equipment items that cannot be repaired during normal operations must be identified, temporary means for mitigating the leaks must be provided, and the leaking equipment items repaired during the next maintenance outage;

(iii) Identification of conditions under which production will be curtailed or halted to repair leaking equipment items or to prevent pulping liquor, soap, and turpentine leaks and spills; and

(iv) A means for tracking repairs over time to identify those equipment items where upgrade or replacement may be warranted based on frequency and severity of leaks, spills, or failures.

(3) The mill must operate continuous, automatic monitoring systems that the mill determines are necessary to detect and control leaks, spills, and intentional diversions of spent pulping liquor, soap, and turpentine. These monitoring systems should be integrated with the mill process control system and may include, e.g., high level monitors and alarms on storage tanks; process area conductivity (or pH) monitors and alarms; and process area sewer, process wastewater, and wastewater treatment plant conductivity (or pH) monitors and alarms.

(4) The mill must establish a program of initial and refresher training of operators, maintenance personnel, and other technical and supervisory personnel who have responsibility for operating, maintaining, or supervising the operation and maintenance of equipment items in spent pulping liquor, soap, and turpentine service. The refresher training must be conducted at least annually and the training program must be documented.

(5) The mill must prepare a brief report that evaluates each spill of spent pulping liquor, soap, or turpentine that is not contained at the immediate process area and any intentional diversion of spent pulping liquor, soap, or turpentine that is not contained at the immediate process area. The report must describe the equipment items involved, the circumstances leading to the incident, the effectiveness of the corrective actions taken to contain and recover the spill or intentional diversion, and plans to develop changes to equipment and operating and maintenance practices as necessary to prevent recurrence. Discussion of the reports must be included as part of the annual refresher training.

(6) The mill must establish a program to review any planned modifications to the pulping and chemical recovery facilities and any construction activities in the pulping and chemical recovery areas before these activities commence. The purpose of such review is to prevent leaks and spills of spent

pulping liquor, soap, and turpentine during the planned modifications, and to ensure that construction and supervisory personnel are aware of possible liquor diversions and of the requirement to prevent leaks and spills of spent pulping liquors, soap, and turpentine during construction.

(7) The mill must install and maintain secondary containment (i.e., containment constructed of materials impervious to pulping liquors) for spent pulping liquor bulk storage tanks equivalent to the volume of the largest tank plus sufficient freeboard for precipitation. An annual tank integrity testing program, if coupled with other containment or diversion structures, may be substituted for secondary containment for spent pulping liquor bulk storage tanks.

(8) The mill must install and maintain secondary containment for turpentine bulk storage tanks.

(9) The mill must install and maintain curbing, diking or other means of isolating soap and turpentine processing and loading areas from the wastewater treatment facilities.

(10) The mill must conduct wastewater monitoring to detect leaks and spills, to track the effectiveness of the BMPs, and to detect trends in spent pulping liquor losses. Such monitoring must be performed in accordance with paragraph (i) of this section.

(d) *Requirement to develop a BMP Plan.* (1) Each mill subject to this section must prepare and implement a BMP Plan. The BMP Plan must be based on a detailed engineering review as described in paragraphs (d)(2) and (3) of this section. The BMP Plan must specify the procedures and the practices required for each mill to meet the requirements of paragraph (c) of this section, the construction the mill determines is necessary to meet those requirements including a schedule for such construction, and the monitoring program (including the statistically derived action levels) that will be used to meet the requirements of paragraph (i) of this section. The BMP Plan also must specify the period of time that the mill determines the action levels established under paragraph (h) of this section may be exceeded without triggering the responses specified in paragraph (i) of this section.

(2) Each mill subject to this section must conduct a detailed engineering review of the pulping and chemical recovery operations—including but not limited to process equipment, storage tanks, pipelines and pumping systems, loading and unloading facilities, and other appurtenant pulping and chemical recovery equipment items in spent pulping liquor, soap, and turpentine service—for the purpose of determining the magnitude and routing of potential leaks, spills, and intentional diversions of spent pulping liquors, soap, and turpentine during the following periods of operation:

(i) Process start-ups and shut downs;

(ii) Maintenance;

(iii) Production grade changes;

(iv) Storm or other weather events;

(v) Power failures; and

(vi) Normal operations.

(3) As part of the engineering review, the mill must determine whether existing spent pulping liquor containment facilities are of adequate capacity for collection and storage of anticipated intentional liquor diversions with sufficient contingency for collection and containment of spills. The engineering review must also consider:

(i) The need for continuous, automatic monitoring systems to detect and control leaks and spills of spent pulping liquor, soap, and turpentine;

(ii) The need for process wastewater diversion facilities to protect end-of-pipe wastewater treatment facilities from adverse effects of spills and diversions of spent pulping liquors, soap, and turpentine;

(iii) The potential for contamination of storm water from the immediate process areas; and

(iv) The extent to which segregation and/or collection and treatment of contaminated storm water from the immediate process areas is appropriate.

(e) *Amendment of BMP Plan.* (1) Each mill subject to this section must amend its BMP Plan whenever there is a change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, turpentine, or soap from the immediate process areas.

(2) Each mill subject to this section must complete a review and evaluation of the BMP Plan five years after the first BMP Plan is prepared and, except as provided in paragraph (e)(1) of this section, once every five years thereafter. As a result of this review and evaluation, the mill must amend the BMP Plan within three months of the review if the mill determines that any new or modified management practices and engineered controls are necessary to reduce significantly the likelihood of spent pulping liquor, soap, and turpentine leaks, spills, or intentional diversions from the immediate process areas, including a schedule for implementation of such practices and controls.

(f) *Review and certification of BMP Plan.* The BMP Plan, and any amendments thereto, must be reviewed by the senior technical manager at the mill and approved and signed by the mill manager. Any person signing the BMP Plan or its amendments must certify to the permitting or pretreatment control authority under penalty of law that the BMP Plan (or its amendments) has been prepared in accordance with good engineering practices and in accordance with this regulation. The mill is not required to obtain approval from the permitting or pretreatment control authority of the BMP Plan or any amendments thereto.

(g) *Record keeping requirements.* (1) Each mill subject to this section must maintain on its premises a complete copy of the current BMP Plan and the records specified in paragraph (g)(2) of this section and must make such BMP Plan and records available to the permitting or pretreatment control authority and the Regional Administrator or his or her designee for review upon request.

(2) The mill must maintain the following records for three years from the date they are created:

(i) Records tracking the repairs performed in accordance with the repair program described in paragraph (c)(2) of this section;

(ii) Records of initial and refresher training conducted in accordance with paragraph (c)(4) of this section;

(iii) Reports prepared in accordance with paragraph (c)(5) of this section; and

(iv) Records of monitoring required by paragraphs (c)(10) and (i) of this section.

(h) *Establishment of wastewater treatment system influent action levels.* (1) Each mill subject to this section must conduct a monitoring program, described in paragraph (h)(2) of this section, for the purpose of defining wastewater treatment system influent characteristics (or action levels), described in paragraph (h)(3) of this section, that will trigger requirements to initiate investigations on BMP effectiveness and to take corrective action.

(2) Each mill subject to this section must employ the following procedures in order to develop the action levels required by paragraph (h) of this section:

(i) *Monitoring parameters.* The mill must collect 24-hour composite samples and analyze the samples for a measure of organic content (e.g., Chemical Oxygen Demand (COD) or Total Organic Carbon (TOC)). Alternatively, the mill may use a measure related to spent pulping liquor losses measured continuously and averaged over 24 hours (e.g., specific conductivity or color).

(ii) *Monitoring locations.* For direct dischargers, monitoring must be conducted at the point influent enters the wastewater treatment system. For indirect dischargers monitoring must be conducted at the point of discharge to the POTW. For the purposes of this requirement, the mill may select alternate monitoring point(s) in order to isolate possible sources of spent pulping liquor, soap, or turpentine from other possible sources of organic wastewaters that are tributary to the wastewater treatment facilities (e.g., bleach plants, paper machines and secondary fiber operations).

(3) By the date prescribed in paragraph (j)(1)(iii) of this section, each existing discharger subject to this section must complete an initial six-month monitoring program using the procedures specified in paragraph (h)(2) of this section and must establish initial action levels based on the results of that program. A wastewater treatment influent action level is a statistically determined pollutant loading determined by a statistical analysis of six months of daily measurements. The action levels must consist of a lower action level, which if exceeded will trigger the investigation requirements described in paragraph (i) of this section, and an upper action level, which if exceeded will trigger the corrective action requirements described in paragraph (i) of this section.

(4) By the date prescribed in paragraph (j)(1)(vi) of this section, each existing discharger must complete a second six-month monitoring program using the procedures specified in paragraph (h)(2) of this section and must establish revised action levels based on the results of that program. The initial action levels shall remain in effect until replaced by revised action levels.

(5) By the date prescribed in paragraph (j)(2) of this section, each new source subject to this section must complete a six-month monitoring program using the procedures specified in paragraph (h)(2) of this section and must develop a lower action level and an upper action level based on the results of that program.

(6) Action levels developed under this paragraph must be revised using six months of monitoring data after any change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, soap, or turpentine from the immediate process areas.

(i) *Monitoring, corrective action, and reporting requirements.* (1) Each mill subject to this section must conduct daily monitoring of the influent to the wastewater treatment system in accordance with the procedures described in paragraph (h)(2) of this section for the purpose of detecting leaks and spills, tracking the effectiveness of the BMPs, and detecting trends in spent pulping liquor losses.

(2) Whenever monitoring results exceed the lower action level for the period of time specified in the BMP Plan, the mill must conduct an investigation to determine the cause of such exceedance. Whenever monitoring results exceed the upper action level for the period of time specified in the BMP Plan, the mill must complete corrective action to bring the wastewater treatment system influent mass loading below the lower action level as soon as practicable.

(3) Although exceedances of the action levels will not constitute violations of an NPDES permit or pretreatment standard, failure to take the actions required by paragraph (i)(2) of this section as soon as practicable will be a permit or pretreatment standard violation.

(4) Each mill subject to this section must report to the NPDES permitting or pretreatment control authority the results of the daily monitoring conducted pursuant to paragraph (i)(1) of this section. Such reports must include a summary of the monitoring results, the number and dates of exceedances of the applicable action levels, and brief descriptions of any corrective actions taken to respond to such exceedances. Submission of such reports shall be at the frequency established by the NPDES permitting or pretreatment control authority, but in no case less than once per year.

(j) *Compliance deadlines.* (1) *Existing direct and indirect dischargers.* Except as provided in paragraph (j)(2) of this section for new sources, indirect discharging mills subject to this section must meet the deadlines set forth below. Except as provided in paragraph (j)(2) of this section for new sources, NPDES permits must require direct discharging mills subject to this section to meet the deadlines set forth below. If a deadline set forth below has passed at the time the NPDES permit containing the BMP requirement is issued, the NPDES permit must require immediate compliance with such BMP requirement(s).

(i) Prepare BMP Plans and certify to the permitting or pretreatment authority that the BMP Plan has been prepared in accordance with this regulation not later than April 15, 1999;

(ii) Implement all BMPs specified in paragraph (c) of this section that do not require the construction of containment or diversion structures or the installation of monitoring and alarm systems not later than April 15, 1999.

(iii) Establish initial action levels required by paragraph (h)(3) of this section not later than April 15, 1999.

(iv) Commence operation of any new or upgraded continuous, automatic monitoring systems that the mill determines to be necessary under paragraph (c)(3) of this section (other than those associated with construction of containment or diversion structures) not later than April 17, 2000.

(v) Complete construction and commence operation of any spent pulping liquor, collection, containment, diversion, or other facilities, including any associated continuous monitoring systems, necessary to fully implement BMPs specified in paragraph (c) of this section not later than April 16, 2001.

(vi) Establish revised action levels required by paragraph (h)(4) of this section as soon as possible after fully implementing the BMPs specified in paragraph (c) of this section, but not later than January 15, 2002.

(2) *New Sources.* Upon commencing discharge, new sources subject to this section must implement all of the BMPs specified in paragraph (c) of this section, prepare the BMP Plan required by paragraph (d) of this section, and certify to the permitting or pretreatment authority that the BMP Plan has been prepared in accordance with this regulation as required by paragraph (f) of this section, except that the action levels required by paragraph (h)(5) of this section must be established not later than 12 months after commencement of discharge, based on six months of monitoring data obtained prior to that date in accordance with the procedures specified in paragraph (h)(2) of this section.

Subpart A—Dissolving Kraft Subcategory

§ 430.10 Applicability; description of the dissolving kraft subcategory.

The provisions of this subpart apply to discharges resulting from the production of dissolving pulp at kraft mills.

§ 430.11 Specialized definitions.

For the purpose of this subpart, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR part 401 and § 430.01 of this part shall apply to this subpart.

§ 430.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of 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:

SUBPART A

[BPT effluent limitations]

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	23.6	12.25	6.88
TSS	37.3	20.05	11.02
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet barking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations. 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:

SUBPART A

[BPT effluent limitations]

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	3.2	1.7	0.95
TSS	6.9	3.75	2.0
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(c) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations. Non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations, but shall be subject to the annual average effluent limitations:

SUBPART A

[BPT effluent limitations]

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.35	0.2	0.1
TSS	0.70	0.4	0.2
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations. Non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days limitations but shall be subject to the annual average effluent limitations:

SUBPART A

[BPT effluent limitations]

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.6	0.35	0.2
TSS	1.45	0.8	0.4
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

§ 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 40 CFR 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 40 CFR 401.16) in § 430.12 of this subpart for the best practicable control technology currently available (BPT).

§ 430.14 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart where chlorophenolic-containing biocides are used must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT). Non-continuous dischargers shall not be subject to the maximum day mass limitations in kg/kkg (lb/1000 lb) but shall be subject to concentration limitations. Concentration limitations are only applicable to non-continuous dischargers. Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides:

SUBPART A

[BAT effluent limitations]

Pollutant or pollutant property	Maximum for any 1 day	
	Kg/kkg (or pounds per 1,000 lb) of product	Milligrams/liter
Pentachlorophenol	0.0025	(0.011)(55.1)/y
Trichlorophenol	0.016	(0.068)(55.1)/y
y = wastewater discharged in kgal per ton of product.		

§ 430.15 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS), except that non-continuous dischargers shall not be subject to the maximum day and average of 30 consecutive days effluent limitations for BOD5 and TSS, but shall be subject to annual average effluent limitations. Also, for non-continuous dischargers, concentration limitations (mg/l) shall apply, where provided. Concentration limitations will only apply to non-continuous dischargers. Only facilities where chlorophenolic-containing biocides are used shall be subject to pentachlorophenol and trichlorophenol limitations. Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides:

SUBPART A

[NSPS]

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	15.6	8.4	4.4
TSS	27.3	14.3	7.5
pH	(1)	(1)	(1)

	Maximum for any 1 day	
	Kg/kkg (or pounds per 1,000 lb) of product	Milligrams/liter
Pentachlorophenol	0.0025	(0.012)(50.7)/y
Trichlorophenol	0.016	(0.074)(50.7)/y
y = wastewater discharged in kgal per ton at all times.		

1 Within the range of 5.0 to 9.0 at all times.

§ 430.16 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must: comply with 40 CFR part 403; and achieve the following pretreatment standards for existing sources (PSES) if it uses chlorophenolic-containing biocides. Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides. PSES must be attained on or before July 1, 1984:

SUBPART A
[PSES]

Pollutant or pollutant property	Maximum for any 1 day	
	Milligrams/liter (mg/l)	Kg/kkg (or pounds per 1,000 lb) of product [a]
Pentachlorophenol	(0.011)(55.1)/y	0.0025
Trichlorophenol	(0.082)(55.1)/y	0.019
y = wastewater discharged in kgal per ton of product.		

[a] The following equivalent mass limitations are provided as guidance in cases when POTWs find it necessary to impose mass effluent limitations.

§ 430.17 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must: comply with 40 CFR part 403; and achieve the following pretreatment standards for new sources (PSNS) if it uses chlorophenolic-containing biocides. Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides:

SUBPART A
[PSNS]

Pollutant or pollutant property	Maximum for any 1 day	
	Milligrams/liter (mg/l)	Kg/kkg (or pounds per 1,000 lb) of product [a]
Pentachlorophenol	(0.012)(50.7)/y	0.0025
Trichlorophenol	(0.089)(50.7)/y	0.019
y = wastewater discharged in kgal per ton of product.		

[a] The following equivalent mass limitations are provided as guidance in cases when POTWs find it necessary to impose mass effluent limitations.

Subpart B—Bleached Papergrade Kraft and Soda Subcategory

§ 430.20 Applicability; description of the bleached papergrade kraft and soda subcategory.

The provisions of this subpart apply to discharges resulting from: the production of market pulp at bleached kraft mills; the integrated production of paperboard, coarse paper, and tissue paper at bleached kraft mills; the integrated production of pulp and fine papers at bleached kraft mills; and the integrated production of pulp and paper at soda mills.

§ 430.21 Specialized definitions.

(a) The general definitions, abbreviations, and methods of analysis set forth in 40 CFR part 401 and § 430.01 of this part apply to this subpart.

(b) *Baseline BAT limitations or NSPS* means the BAT limitations specified in § 430.24(a) (1) or (2), as applicable, and the NSPS specified in § 430.25(b) (1) or (2), as applicable, that apply to any direct discharger that is not ''enrolled'' in the ''Voluntary Advanced Technology Incentives Program.''

(c) *Enroll* means to notify the permitting authority that a mill intends to participate in the ''Voluntary Advanced Technology Incentives Program.'' A mill can enroll by indicating its intention to participate in the program either as part of its application for a National Pollutant Discharge Elimination System (NPDES) permit, or through separate correspondence to the permitting authority as long as the mill signs the correspondence in accordance with 40 CFR 122.22.

(d) *Existing effluent quality* means the level at which the pollutants identified in § 430.24(a)(1) are present in the effluent of a mill ''enrolled'' in the ''Voluntary Advanced Technology Incentives Program.''

(e) *Kappa number* is a measure of the lignin content in unbleached pulp, determined after pulping and prior to bleaching.

(f) *Voluntary Advanced Technology Incentives Program* is the program established under § 430.24(b) (for existing direct dischargers) and § 430.25(c) (for new direct dischargers) whereby participating mills agree to accept enforceable effluent limitations and conditions in their NPDES permits that are more stringent than the ''baseline BAT limitations or NSPS'' that would otherwise apply, in exchange for regulatory- and enforcement-related rewards and incentives.

§ 430.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

SUBPART B

[BPT effluent limitations for bleached kraft facilities where market pulp is produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	15.45	8.05	4.52
TSS	30.4	16.4	9.01
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	13.65	7.1	3.99
TSS	24.0	12.9	7.09
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where pulp and fine papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	10.6	5.5	3.09
TSS	22.15	11.9	6.54
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for soda facilities where pulp and paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	13.7	7.1	3.99
TSS	24.5	13.2	7.25
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of wet barking operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations:

SUBPART B

[BPT effluent limitations for bleached kraft facilities where market pulp is produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	2.3	1.2	0.70
TSS	5.3	2.85	1.55
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	2.25	1.2	0.65
TSS	5.75	3.1	1.70
pH	(1)	(1)	(1)

11 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where pulp and fine papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	1.95	1.0	0.55
TSS	5.3	2.85	1.55
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for soda facilities where pulp and papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	2.05	1.1	0.60

SUBPART B—Continued

[BPT effluent limitations for soda facilities where pulp and papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
TSS	5.25	2.8	1.55
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(c) The following limitations establish the quantity or quality of pollutants or pollutant parameters, controlled by this section, resulting from the use of log washing or chip washing operations, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs and/or chips which are subject to such operations:

SUBPART B

[BPT effluent limitations for bleached kraft facilities where market pulp is produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.2	0.1	0.1
TSS	0.6	0.3	0.15
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times..

SUBPART B

[BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.25	0.15	0.05
TSS	0.65	0.35	0.20
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

Subpart B

[BPT effluent limitations for bleached kraft facilities where pulp and fine papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.2	0.1	0.05
TSS	0.55	0.3	0.15

Subpart B—Continued

[BPT effluent limitations for bleached kraft facilities where pulp and fine papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for soda facilities where pulp and papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.15	0.1	0.05
TSS	0.5	0.25	0.15
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, resulting from the use of log flumes or log ponds, which may be discharged by a point source subject to the provisions of this subpart. These limitations are in addition to the limitations set forth in paragraph (a) of this section and shall be calculated using the proportion of the mill's total production due to use of logs which are subject to such operations:

SUBPART B

[BPT effluent limitations for bleached kraft facilities where market pulp is produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.4	0.2	0.15
TSS	1.15	0.6	0.35
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.45	0.25	0.10
TSS	1.25	0.7	0.35

SUBPART B—Continued

[BPT effluent limitations for bleached kraft facilities where paperboard, coarse paper, and tissue paper are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for bleached kraft facilities where pulp and fine papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.35	0.2	0.10
TSS	1.15	0.6	0.30
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

SUBPART B

[BPT effluent limitations for soda facilities where pulp and papers are produced]

Pollutant or pollutant parameter	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	0.3	0.2	0.10
TSS	1.1	0.55	0.35
pH	(1)	(1)	(1)

1 Within the range of 5.0 to 9.0 at all times.

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

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must 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 in § 430.22 of this subpart for the best practicable control technology currently available (BPT).

§ 430.24 Effluent limitations representing the degree of effluent reduction attainable by the application of best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) Except as provided in paragraph (b) of this section—

(1) The following effluent limitations apply with respect to each fiber line that does not use an exclusively TCF bleaching process, as disclosed by the discharger in its NPDES permit application under 40 CFR 122.21(g)(3) and certified under 40 CFR 122.22: