

EPA's Cluster Rule—an interim report

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Proposed air and water emission standards continue to evolve.

At the end of 1993, the U.S. Environmental Protection Agency proposed regulations for the pulp and paper industry designed to significantly reduce pollutant releases to air and water. The intent was to reduce the cost of compliance, promote compliance planning by the industry; promote pollution prevention, and emphasize multimedia pollution control. To meet those goals, EPA formed a regulatory "cluster" group to jointly develop Clean Water Act and Clean Air Act regulations for the pulp and paper industry.

Although the Cluster group was charged with optimizing ways to solve environmental problems, the only apparent practical benefit to industry is that efforts to respond and comply with both new regulations can be combined. In fact, EPA points out that if mills make process changes to reduce or eliminate chlorine use, which would reduce chlorinated hazardous air pollutants (HAPs), this would result in more emissions of nonchlorinated HAPs, with no net benefit (1).

The proposed regulations are a new Subpart S to 40 CFR 63, National Emission Standard for Hazardous Air Pollutants (NESHAP) for the Pulp and Paper Industry and revised process wastewater effluent limitations (40 CFR 430, The Pulp, Paper and Paperboard Point Source Category). In the time since publication in the *Federal Register* in December 1993, EPA has received comments and new data concerning the proposed regulations which will be considered in developing the final rules. The following update of EPA's activities also discusses changes to the proposed rules that are likely to appear in the final version.

The schedule and requirements

Implementation

EPA published proposed regulations Dec. 17, 1993. In response to the volume of comments (and new data) received during the spring of 1994, EPA has put off promulgation, originally scheduled for fall of 1995, until spring of 1996. However, EPA indicated that an interim notice would be issued with responses to major NESHAP comments and NESHAP rule changes by mid-1995.

NESHAP regulations scheduled to be proposed for chemical pulping combustion sources at the end of 1994 (labeled

"MACT II") are now scheduled for October 1995. These rules will not be promulgated with the original cluster NESHAP (now known as "MACT I") but are scheduled for October 1996 promulgation. Development of NESHAP for HAP emissions from mechanical and nonwood pulping, recycle and nonintegrated mills, and paper machines ("MACT III") have yet to be scheduled (2).

Compliance

The proposed MACT I NESHAP regulations specifically state that compliance is required within three years of promulgation and an additional year can be granted if equipment changes are required (1). Therefore, compliance would have to be achieved by the spring of either 1999 or 2000. Similarly, compliance with NESHAP for combustion emission sources, expected to be promulgated in October 1996, would be required by the end of 1999 or 2000.

However, EPA defined "source" broadly to mean a single source which is comprised of all applicable emission points at the mill (1). This should make it easier for facilities to make equipment upgrades to comply with the proposed effluent guidelines, without triggering "new source" compliance deadlines for NESHAP that apply if a "source" is reconstructed. If a new or reconstructed source is operational after a proposed standard, it must comply with that standard (in this case the proposed NESHAP) by the date of promulgation. Otherwise, the compliance date is three years from the date of promulgation.

Compliance requirements for the proposed effluent guidelines are not as straightforward as those for NESHAP. Mills with current SPDES/NPDES permits could continue to operate under those current permits (typically 3 or 5 years in duration) and existing effluent limitations. As each current permit expires, the new limits would be applied to the permit renewal. However, some states include "re-opener" clauses in their permits which would give them the opportunity, if they so chose, of changing the permit conditions before the expiration date (3,4).

Mills that have the misfortune of having SPDES/NPDES permits that must be renewed immediately after promulgation would likely have to negotiate a schedule of compliance under a consent order if compliance could not be achieved immedi-

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ately. Therefore, assuming a 1996 final rule, mills could expect to have either no time or, at most, until 2001 to achieve compliance, depending on their specific permits.

Comments and new data

Comments

During the comment period, EPA received 133 comments on the effluent limitations (5) and 104 comments on the NESHAP regulations (2). Letters from individual citizens, mostly mill employees and mill town residents, accounted for an additional 5000 comments. Data submitted with comment letters and new data, provided by NCASI and industry, produced a pile 8 feet tall (4).

New air emission data

The data submitted with comments have been available for review at the EPA air and water dockets since April 1994. Only recently did EPA make available newly completed NCASI and industry-collected air emission data for review. The original cluster rule notice indicated that these data were in the process of being collected and finalized but would not be completed by the end of the original comment period. EPA issued a notice in the *Federal Register* Feb. 22, 1995 (6), describing these new data and stating that it would be considered in developing the final rules. The reports cited by EPA were:

1. A 16-mill study conducted by NCASI (MACT Emission Inventory Report)
2. An 11-mill study conducted by International Paper consisting of raw data on HAP emissions collected at IP mills
3. A 5-mill study conducted by the Texas Paper Industry Environmental Committee of mills located in the Houston area (nonattainment for ozone) which included some identification of specific VOCs
4. A condensate study performed by NCASI (data from 7 mills with strippers and 11 without strippers).

EPA also received a NCASI-sponsored report on MACT equipment cost estimates, although too late to be included in their recent notice. This "MACT analysis" report evaluated EPA's proposed design and cost estimates for MACT floor required equipment. It substantiated, in part, industry's US\$ 11.5 billion cost of compliance compared to EPA's US\$ 3.8 billion estimate. The MACT Analysis covered steam stripping of wastewater, pulp mill HVLC NCG collection and incineration, incineration of bleach plant vent gases, and water scrubbing of bleach plant vent gases for methanol control (7).

Although the development of the MACT floor is blind to costs, the larger NCASI estimates indicate a much higher industry-wide cost of compliance and may require EPA to recalculate its cost/benefit analyses. EPA was required under the Regulatory Flexibility Act to determine the impact of the proposed regulations on small business and Executive Order

12866 required the assessment of all potential costs and benefits.

New effluent data

EPA issued a notice in the *Federal Register* July 5, 1995, (8) to announce the public availability of new effluent data. The industry has been actively submitting effluent and cost data to EPA in support of their initial comments and early cost estimates. The NCASI reports cited by EPA were:

- "Secondary Fiber Non-Deink Mill Data Request" responses (to evaluate the technical feasibility of zero discharge)
- "Recovery Furnace Capacity Survey" results (to resolve the disparity between AF&PA and EPA modification and upgrading cost estimates)
- "Best Management Practices Questionnaire" responses (to document existing practices and historic costs of implementing spill prevention and control measures)
- "Capital and Operating Cost Request" responses (mill data on recent actual costs to (1) install extended delignification, oxygen delignification, or pressure screens; (2) upgrade brown stock washers; (3) increase chlorine dioxide capacity; and (4) upgrade recovery furnace capacity)
- "Operating Data Requests for Recently Installed Pulping and Bleaching Technologies" (data collected from mills that have made pulping and bleaching process changes within the last three years).

In addition, EPA has completed its own data collection, including performance data from several mills that use complete chlorine dioxide substitution (the industry's suggested technology basis for kraft mills). EPA states that they are "now reviewing the new data and will give serious consideration to [chlorine dioxide substitution] as a technology basis for setting limitations and standards."

Possible changes

NESHAP

The most significant possible change to MACT I NESHAP would be a revision to the MACT floor to accommodate pretreatment of condensates with high HAP levels (digester blow tank condensates, evaporator foul condensates, turpentine recovery wastewaters) as an alternate control technology. EPA is examining a MACT floor based on a combination of condensate segregation, pretreatment, and reuse of treated condensates as emission control in the pulp mill (9).

EPA was provided with a Draft Mill Condensate Study (April '95) to support condensate pretreatment as a workable alternative. The NCASI study reviewed the data collected to date and quantitatively compared emissions for mills that reuse high-methanol condensates, those that reuse low-methanol condensates, and those that use fresh water (7).

Other possible changes being discussed by EPA include sub-categorization for kraft and sulfite mills, and perhaps for semichemical mills. To date EPA has only given serious thought to kraft mill standards. However, EPA acknowledges that sulfite mills typically scrub their mill vent emissions instead of utilizing an incinerator and that semichemical pulp mills are unlikely to have any vent collection system in place. These are significant deviations from the bleached kraft mill MACT floor (2).

EPA may also eliminate bleach plant methanol emissions from the MACT floor. (In the proposed rules EPA included scrubbing of bleach plant HAPs in the MACT floor.) However, most of the bleach plant HAPs are methanol and very little methanol is removed by typical scrubbers designed to control chlorine and chlorine dioxide. Based on the additional data supplied by industry, EPA agrees that methanol control is not achieved to any significant degree by mills at the MACT floor.

Additionally, EPA may redraft the pulping component definition to follow more closely a typical mill's fiber flow regime (2,9).

Effluent limitations

Although there has been much discussion concerning the proposed effluent limitation guidelines between EPA and industry representatives, these rules were more developed in their proposed state than those for NESHAP and fewer changes have been openly discussed by EPA.

However, the industry continues to lobby EPA on several issues of contention, including the following (10):

- Inclusion of AOX as a BAT nonconventional pollutant (for which EPA has discretion, and for which it, admittedly, has no sound toxic weighing factor to determine "economically achievable performance")
- BPT/BCT effluent limitation guidelines based on the average of the best 50% mills (base on industry cost estimates, the average of the best 90% mills would be the selected option)
- Total costs to industry and the economy and the number of acceptable mill closures (EPA has been provided with a

wealth of cost data in support of industry's US\$ 11.5 billion cost estimate of compliance and the likely closure of 33 mills as a result. The agency seems to be slowly accepting those estimates. In the proposed rules, EPA defined a level of cost that was not acceptable and if they accept even some portion of an increase in cost based on industry values, the regulations would have to be made significantly less restrictive.)

By the end of August 1995, EPA planned to issue a notice outlining a framework for decision making and provide a progress report on its activities to date (8). This notice will cover both the air and water proposed regulations. ■

Literature cited

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