

than half) of all process wastewaters will require control by a treatment device (e.g., steam stripping) to achieve both rules. EPA has been informed by the industry that additional data will be submitted (some data have been submitted) in order to characterize, in greater detail than available in

responses to the Section 308 questionnaire, the individual process wastewater streams at the point of generation. This additional data and any other information available to EPA will be considered prior to promulgation in identifying the small portion of process wastewater streams that would require

control of volatile organic pollutants under both the effluent guideline and the MACT standard for this industry. The methodology to be used in analyzing these data will likely be the same as presented above and the preliminary results of which are presented in the following tables.

TABLE X.A.1.—PRELIMINARY IMPACTS OF CONTROL OPTIONS FOR A, B, C, AND D SUBCATEGORY PHARMACEUTICAL PLANTS BASED ON PROCESS AREA STREAMS

Control Option	VOHAP conc. <sup>1</sup> cutoff (PPMW)	Flow cutoff (LPM)	Total flow controlled by option (percent)	HAP emissions (MG/yr)	HAP emission reduction (percent)	Total annual cost (\$M/yr)	HAP cost effectiveness (\$/MG HAP ER <sup>2</sup> )
Baseline .....	.....	.....	.....	12,500	.....	.....	.....
1 .....	1,000	10	46	1,650	87	19.0	1,750
2 .....	800	5	47	1,640	87	19.8	1,830
3 .....	500	1	72	1,520	88	26.1	2,380
4 .....	200	1	75	1,510	88	27.6	2,520
5 .....	100	1	80	1,500	88	29.5	2,680

**Notes:**

<sup>1</sup>“VOHAP CONC. CUTOFF” means the volatile organic HAP concentration determined by Method 305 in 40 CFR Part 63, Appendix A.

<sup>2</sup>“\$/MG HAP ER” means the dollars per megagram of HAP emission reduction by the given control option, which is determined by dividing the annual cost of the option by the annual emission reduction.

- All options include an action level of 10,000 ppmw volatile organic HAP concentration at any flowrate.
- Total industry wastewater flow equals 75,300 liters per minute.

TABLE X.A.2.—PRELIMINARY IMPACTS OF CONTROL OPTIONS FOR A, B, C, AND D SUBCATEGORY PHARMACEUTICAL PLANTS BASED ON DISAGGREGATED STREAMS

Control Option	VOHAP conc. <sup>1</sup> cutoff (PPMW)	Flow cutoff (LPM)	Total flow controlled by option (percent)	HAP emissions (MG/yr)	HAP emission reduction (percent)	Total annual cost (\$M/yr)	HAP cost effectiveness (R/MG HAP ER <sup>2</sup> )
Baseline .....	.....	.....	.....	12,500	.....	.....	.....
1 .....	1,000	10	7	2,790	78	6.6	680
2 .....	800	5	10	2,440	80	8.0	800
3 .....	500	1	16	2,120	83	10.6	1,020
4 .....	200	1	25	1,680	87	13.7	1,270
5 .....	100	1	29	1,630	87	15.9	1,460

**Notes:**

<sup>1</sup>“VOHAP CONC.” means the volatile organic HAP concentration determined by Method 305 in 40 CFR Part 63 Appendix A.

<sup>2</sup>“\$/MG HAP ER” means the dollars per megagram of HAP emission reduction by the given control option, which is determined by dividing the annual cost of the option by the annual emission reduction.

- All options include an action level of 10,000 ppmw volatile organic HAP concentration at any flowrate.
- Total industry wastewater flow equals 75,300 liters per minute.

**B. Potential Interaction of Proposed Effluent Limitations Guidelines and Future Air Emission Standards**

Because both the effluent limitations guidelines and standards being proposed today and the future MACT standards for this industry are likely to regulate similar pollutants and to reflect similar technology bases, EPA acknowledges that there is considerable interest in the industry concerning the potential interaction of these rulemakings. In this section, EPA addresses various issues that thus far have come to EPA’s attention.

The effluent limitations guidelines and standards proposed today for nonconventional and priority pollutants are based on actual performance data obtained for specific pollutants over a

range of influent concentrations. The future MACT standards for HAPs emissions from pharmaceutical wastewater, like the HON, probably will employ data on Volatile Organic HAP concentration and flow rate of the wastewater stream to determine applicability of its standards to covered sources. Like the HON, the pharmaceuticals NESHAP will probably authorize percent reduction standards, effluent concentration limitations and mass removal requirements as options for measuring compliance.

EPA considered proposing percent reduction limitations and standards in this water rulemaking, but for the following reasons has determined that such limitations and standards would not adequately control the discharge of

wastewater pollutants of concern, particularly volatile pollutants. First, in EPA’s view, effluent limitations guidelines and standards based on percent reduction do not reflect the performance of the best available technology in removing wastewater pollutants for the pharmaceutical manufacturing industry. EPA’s analysis of actual performance data shows that the proposed concentration-based effluent limitations and standards can be met, regardless of variations in the influent concentrations of the target volatile compounds, using well-designed and well-operated technology. Second, percent reduction effluent limitations, as previously promulgated under the Clean Water Act for this industry, may discourage source