

recently promulgated Hazardous Organic NESHAP (HON) for the Synthetic Organic Chemical Manufacturing Industry (SOCMI), in conjunction with Section 308 questionnaire responses, to evaluate the 1990 levels of air emissions from wastewater for this industry. The results of the analyses were used to estimate air emission increases or decreases for the regulatory options. The Agency estimates that Option 1 would result in a minimal increase in air emissions, while Options 2 and 3 would decrease air emissions by 5,300 and 6,350 metric tons per year, respectively. Option 4 would achieve the same air emission reduction as Option 3. In EPA's view, these beneficial non-water quality environmental impacts militate in favor of selecting a technology option employing steam stripping or distillation (i.e., Options 2, 3 or 4).

The Agency did not find that the age of equipment and facilities involved provided any basis for choosing among the options. The Agency also evaluated whether the engineering aspects of the options were compatible with the manufacturing processes employed and potential process changes at facilities with subcategory A and/or C operations. EPA concluded that the engineering aspects of all four options were compatible with current manufacturing processes and possible process changes at these facilities, and the results of this evaluation did not provide a basis for selecting an option.

(2) Biological and Natural Extraction and Mixing/Compounding/Formulating Subcategories, Subparts B and D

EPA considered four regulatory options to reduce the generation of priority and nonconventional pollutants by facilities with subcategory B and/or D operations. In selecting and evaluating these technology options for BAT for these facilities, EPA examined the 1990 questionnaire data supplied by the fourteen facilities with subcategory B and/or D operations only that discharge directly into surface waters. Among other things, EPA undertook to characterize the process wastewater from these facilities in order to identify the best technologies available to treat the pollutants of concern. The data supplied by these facilities indicate that the process wastewater of these direct dischargers is significantly different, in terms of the pollutants present and their concentrations, from the process wastewater of indirect discharging facilities with subcategory B and/or D operations. EPA is unable to account for this marked difference, because the processes employed by the direct and

indirect dischargers with subcategory B and/or D operations seem to be the same, and therefore EPA has some doubts that these data depict the typical wastestreams of direct dischargers with subcategory B and/or D operations. Although EPA proposes BAT limitations for these facilities based on the conclusions it drew from the data, EPA also solicits comment on those conclusions and invites additional data concerning the processes and wastewater characteristics (flow and pollutant concentration) of these facilities. See Section XIV, solicitation number 7.0. Because new data for 1991–1994 may establish greater similarities between the process wastewaters of direct and indirect dischargers with operations than are evident today, EPA is also considering and specifically inviting comment on whether it should promulgate BAT limitations based on the model treatment technology selected by EPA as the basis for its proposed PSES limitations for facilities with subcategory B and/or D operations. See Section IX.E.5 for a discussion of the reasoning underlying that proposal.

In addition, in the event a facility with subcategory B and/or D operations changes its mode of discharge and decides to discharge its wastewater directly to surface waters (rather than through a POTW), EPA is considering establishing BAT limitations for such dischargers that reflect the wastewater characteristics reported by the indirect dischargers with subcategory B and/or D operations. The possibility that an indirect discharger may change its mode of discharge and thus become subject to BAT limitations rather than to PSES further suggests to EPA that it should consider the entire universe of data from facilities with subcategory B and D operations—not just those currently with direct discharges—in setting BAT limits. Therefore, EPA seeks comment on whether it should promulgate BAT limitations for this subcategory based on steam stripping technology, which EPA has determined is appropriate technology for the wastestreams reported by indirect dischargers in this subcategory. See Section XIV, solicitation number 7.0.

The four options considered by EPA are as follows:

Option (1)—Advanced biological treatment.

This option is identical to the proposed technology basis for BPT for facilities with subcategory B and/or D operations.

Option (2)—In-plant steam stripping plus advanced biological treatment.

This option adds in-plant steam stripping to the technology described in

Option 1 for the purpose of removing strippable organic pollutants prior to dilution from commingled wastewater streams and air stripping in treatment basins and impoundments at the end of the pipe.

Option (3)—In-plant steam stripping with distillation plus advanced biological treatment.

This option adds in-plant fractional distillation to the technology described in Option 2 for the fractional purpose of achieving greater removal of difficult to strip volatile organic pollutants (such as methanol) prior to dilution from commingled wastestreams and air stripping in treatment basins and impoundments at the end of the pipe.

Option (4)—Steam stripping with distillation plus advanced biological treatment plus end-of-pipe Granular Activated Carbon (GAC) adsorption technology.

This option adds Granular Activated Carbon adsorption treatment to the technology described in Option 3 for the purpose of achieving additional removal of the pollutant COD beyond that achieved by Option 3.

EPA is proposing Option 1 as the technology basis for BAT limitations for facilities with subcategory B and/or D operations because, on the basis of the data submitted by the direct dischargers in these subcategories, EPA determined that this technology basis is the best available technology economically achievable for these pollutants. However, as discussed above, EPA is seriously considering and specifically invites comment on setting BAT limitations for these plants based on the PSES model technology for facilities with subcategory B and/or D operations. In making the proposed BAT determination, EPA analyzed data for each facility identified through the 1989 Pharmaceutical Screener Questionnaire and the 1990 Detailed Questionnaire as engaging in subcategory B and/or D operations. The results of the screener questionnaire indicate that, nationwide, 14 pharmaceutical manufacturing plants with direct discharges engage only in subcategory B and/or D operations (excluding subcategory E research activities). These 14 facilities reported to EPA in response to the 1990 detailed questionnaire that they discharge BOD₅, TSS, COD, six solvents and no priority pollutants. Of the six solvents, the facilities reported discharging only two in quantities exceeding a combined subcategory total of 1000 lbs/year. EPA's analysis of the questionnaire data indicates that the total nonconventional pollutant loadings discharged, on average, for each facility with subcategory B and/or D operations in