the pollution prevention practices are specified and must be used for compliance and does not require numerical limitations (which could not be developed due to insufficient data). As stated in III.A. of this notice, the Agency now believes that it may also be appropriate to establish an alternate BAT and PSES limitations that allow a discharge of pollutants as long as PFPR facilities comply with certain pollution prevention practices. It also differs from the old Option 2 in that as part of the Zero/P2 Option, the Agency believes that the pollution prevention alternative can be implemented without the use of numerical limitations (see Section III.C.2). EPA did not re-estimate costs for Option 5 because it is not a viable option given that it achieves the same results as the new regulatory option and Option 4 (i.e., zero discharge) at substantially higher costs.

EPA previously estimated the total annualized compliance cost of the proposed rule at \$56.1 million (1988) (which equals \$67.4 million in 1995). EPA is using 1988 dollars because it is the base year for the survey data that was collected and because costs were presented in 1988 dollars in the proposal. As shown in Table 1, total annualized compliance costs (including amortized capital costs and operating and maintenance costs) equal \$32.7 (1988) million (\$39.4 million in 1995) for the Zero/P2 Option. In choosing between the two components of the Zero/P2 Option, industry is expected to choose the lower cost compliance alternative for each facility. For some facilities, particularly those with low volumes of wastewater, achieving zero discharge will be the less expensive alternative (even when they comply by contract hauling wastewaters for off-site incineration): for most facilities. achieving the P2 allowable discharge by complying with pollution prevention practices and treatment of certain waste streams is less expensive. The cost estimate for the Zero/P2 Option selects the least costly alternative for each facility.

As discussed in the proposed rule (59 FR 17896), EPA expanded the scope of the rule to account for facilities that formulate PAIs other than those PAIs covered by the 1988 survey questionnaire. In the proposal, EPA referred to these additional PAIs as the "non 272" PAIs. Several of the non-272 PAIs are being considered for exemption from the final rule (see Section II. A of this notice). Consistent with the methodology used at proposal, EPA assumed that facilities using only non-272 PAIs have the same average compliance costs, percent of impacted facilities, and average pollutant removals as facilities covered by the survey.

## C. Economic Impacts

EPA re-estimated the economic impacts resulting from the compliance costs using the methodology presented in the EIA for the proposed rule. EPA projected two categories of economic impacts that may result from regulation: severe impacts measured as projected facility closures, and moderate impacts measured as conversion of PFPR product lines to non-pesticide formulating, packaging and repackaging operations, or compliance costs in excess of five percent of facility revenue. Under the proposed option, EPA projected facility closures at two facilities and moderate economic impacts at 250 facilities (see Table 1). Under the new combined Zero/P2 Option, EPA projects no severe impacts and moderate impacts at 162 facilities, a substantial decrease from the proposed rule.

TABLE 1.—NATIONAL ESTIMATES OF COSTS AND IMPACTS FOR SUB-CATEGORY C PSES OPTIONS IN 1988 DOLLARS

(Assuming Zero Cost Pass-Through)

	Zero/P2 option	Pro- posed option 3/S'
All facilities:		
# of Facilities Pro-		
jected to Incur		
Costs	651	869
Total Annualized		
Compliance Costs		
(million dollars) <sup>1</sup>	\$32.7	\$56.1
Facility Closures: (Se-		
vere Economic Im-		
pacts)	0	2

TABLE 1.—NATIONAL ESTIMATES OFCOSTS AND IMPACTS FOR SUB-<br/>CATEGORY C PSES OPTIONS IN<br/>1988 DOLLARS—Continued

(Assuming Zero Cost Pass-Through)

	Zero/P2 option	Pro- posed option 3/S'
Moderate Economic Impacts	162	250

<sup>1</sup>Total annualized compliance costs are in \$1988 and therefore differ from the costs used in the cost-effectiveness section below.

## D. Cost-Effectiveness

Cost-effectiveness analysis is used in the effluent guidelines process to compare the efficiency of one regulatory option in removing pollutants to another regulatory option, and to compare the regulation with other promulgated regulations. Costeffectiveness is defined as the incremental annual cost of a pollution control option in an industry or industry subcategory per incremental pollutant removal. The increments considered are relative to another option or benchmark such as existing treatment. The cost-effectiveness value, therefore, represents the marginal cost of removing the next pound of pollutant.

For this cost-effective analysis, the costs were annualized using a social discount rate of seven percent. To facilitate comparison among rules promulgated in different years, costeffectiveness values are always reported in 1981 dollars. Pollutant removals are measured in copper-based toxic "pounds-equivalent". This adjustment accounts for differences in toxicity among the regulated pollutants. (Note that the analysis presented here is not strictly comparable with that presented at proposal because the toxic weighting factor used for pyrethrin has decreased significantly since proposal as a result of a new calculation method.)

Table 2 presents the total annualized costs, total pounds, total poundsequivalent of pollutants removed, and average cost per pound removed for the three options (Options 1, Zero/P2, and

4). Table 3 presents the incremental cost-effectiveness for the three options.