

It may be advisable for the government to provide such a loan program, particularly, for some of the smaller or marginal plants that do not have the capital available for financing the costly waste treatment facilities. Such a program could be beneficial, but it does not provide a significant contribution to the costs of pollution control and abatement facilities. Rather, there would be the additional cost of the administration of the program.

One meritorious possibility for giving aid to industrial plants for pollution control and abatement would be for the federal government to make block grants to the states for that specific purpose. The states could then administer a program which would allow for grants or loans to those plants which need the funds to meet the state requirements. This would permit the local authorities to provide the assistance where it is most urgently needed to improve water quality.

In discussing programs that the federal government might inaugurate to assist in our continuing efforts to control and abate pollution, I feel compelled to comment upon the suggestion made by some that an effluent fee program be established. Conceptually, the effluent fee program would require industrial plants and municipalities to pay for the wastes discharged into streams and rivers. This possibility was given serious attention by a Study Committee made up of officials from the U.S. Departments of Treasury, Interior, Commerce, HEW, the Bureau of the Budget, and the Council of Economic Advisors. In August, 1966, this committee reported, based upon the information it had at that time, "that effluent fees provide an effective and highly efficient incentive for water pollution control. The Committee, therefore, recommends their use in addition to the enforcement provisions enacted in the Water Quality Act of 1965."

The information and data presently being gathered by a similar committee within the government, has overwhelmingly shown such a program would be unworkable. Under present circumstances, the business community would also have to oppose any such program.

The knowledge now available indicates how important pollution control policies are to the nation, not only for the sake of water quality, but because of the financial costs to the country. Estimates of the costs of treatment, i.e., amortization of the capital investment and operation and maintenance costs, indicate that capital costs are about one-fourth to one-third the total costs. In other words, the operation costs will be about twice the construction costs. It must be remembered that operating costs are a tax deductible item. Thus, if increased treatment is required, it reduces future taxable income. If the increased treatment provides no realizable benefit in the stream, the public receives no benefit and the governments, state and federal, lose revenues.

Dr. Henry C. Bramer, an industrial economist, formerly of Mellon Institute, who is well qualified in the field of pollution control mechanics, as well as economics, recently reported to the American Institute of Chemical Engineers how financially important water pollution control decisions are to the American taxpayer.

First, he reported that, on the average, operating costs to treat each thousand gallons of industrial process water would amount to:

- 10 cents for primary treatment,
- 20 cents for secondary treatment,
- 40 cents for tertiary treatment.

In other words, each decision to require the next higher degree of treatment doubles the operating cost.

For American industry, which utilizes 3,700 billion gallons of water a year for processing purposes, the operating costs would be:

- \$370,000,000 for primary treatment,
- \$740,000,000 for secondary treatment,
- \$1,480,000,000 for tertiary treatment.

Secondary treatment thus adds \$370 million per year to the cost of treating industrial water. Unless it is justifiable, it would be a poor allocation of resources. What it adds as a cost to municipalities I do not know.

But, Dr. Bramer offers an even more ominous warning when he cautions that the cost of process water treatment is smaller than the cost of lowering the temperature of "cooling water" used by industry to meet an arbitrary effluent standard, such as 90° F.

For American industry, the operating and amortization cost to provide cooling facilities will be in excess of \$1 billion a year according to Dr. Bramer.

Secondary treatment of process water plus the cooling of "cooling water" thus means an annual cost of \$1.8 billion.