

INDUSTRY'S ROLE IN POLLUTION ABATEMENT

by Robert N. Rickles

One of my learned friends tells me that I am a most fortunate individual because I am doing the Lord's work and being paid for it. To support this contention he quotes the following passage from the revised litany of a small English parish:

From all destroyers of natural beauty in this parish
and everywhere;
From all Polluters of earth, air and water;
From all makers of visable abominations;
From ferry builders, disfiguring advertisers,
road hogs and spreaders of litter;
From the villanies of the rapacious and
incompetence of the stupid;
From the carelessness of individuals and
somniaolence of local authorities;
From all foul smell, noises and sights—
GOOD LORD DELIVER US!

Unfortunately, the Lord will *not* deliver us; only a concerted effort by industry, science, technology, government, and people can deliver us.

Industry stands ready to do its part. This is *not* a new posture. Industrial participation in pollution abatement dates to the earliest days of concern about environmental health and control. Almost all of the important developments in control equipment and processes for solid, liquid, and air pollutant control were developed by industrial concerns or university-industry teams. Such developments as fluidized sludge burners, poly-electrolyte flocculants, high efficiency biologic aeration processes and sulfur from gas extraction processes are all recent developments in this vein. There continue to be, as Congressman Daddario's committee has so ably pointed out, many unsolved problems in the field of environmental control. Much research and development is still needed and only industry can prove the commercial orientation so vital to obtaining a proper balance between economic costs and social values. What possible interferences exist to the orderly solution of these problems by industrial development teams? Two major ones stand out to my mind.

Editor's Note: Mr. Rickles is Director of Pollution Abatement, Celanese Corporation.

A. *The first is that the pollution abatement field has been, from an industrial point of view, stagnant and unprofitable.* It is important to understand that pollution abatement, industrial and municipal, exists only by government fiat. Government must encourage rather than discourage the use of new equipment, techniques, and processes. Government must encourage the growth of the industry and the development of new techniques by making the use of such techniques profitable. This can be done by proper use of government fiscal, tax, and regulatory authority. If these were the case, the need for massive government research and development efforts would be greatly lessened and the rapid development of commercially realistic solutions would ensue.

I had the honor of organizing a workshop on pollution control for the AIChE last week in New York and heard two excellent suggestions made by Mr. Benn Jesser of M. W. Kellogg which, if adopted, would greatly increase the amount of industrial research and development in the environmental field. I personally endorse both suggestions. The first is that all environmental control research and development performed by industrial concerns receive credit against profit before taxes to the extent of 20% of those profits similar to the investment credit presently available (7%) and those increases suggested by Senators Cooper (14%) and Smathers (20%).

The second suggestion centers around the establishment of an AEC-like independent agency run by a combine of major process and process engineering concerns to manage the government research and development program in the environmental sciences field. I propose that Congress authorize the President to establish such a commission to be called the Environmental Sciences Commission.

I would like to pass onto three other aspects of the industrial problem. In the future we shall see increased water reuse. In many areas of the country the available water supply is already stretched thin. By 1980, the forecast is for the problem to be widespread. At the same time, effluent requirements will be sufficiently high that industry will want to and have to reuse such effluents on a large scale. Industry should begin to conduct research into this possibility and its effect upon plant operations.

Related to water reuse is the problem of product recovery. In the case of many industrial plants much of the effluent pollutants are valuable food or other products. An examination of waste streams and the consideration of effluent costs should lead to effluent minimization through product recovery. The order of questions to consider when investigating a problem of contamination are:

1. Does the unit have to produce pollutants?
2. If so, is the process being used one which will minimize the pollution?
3. Is the pollutant valuable?

4. Can the pollutant be detoxified?

5. Can the pollutant be dispersed?

The design of new production facilities should also follow these principles.

Of even more significance is the impact of environmental control upon product lines. We have already seen the conversion of the detergent industry nationwide and the coatings and solvents industries in the Los Angeles and San Francisco Bay areas due to the impact of environmental control regulations. Others under pressure include the automobile, gasoline, fuel oil, coal, and gasoline additive industries. This impact will be considerably greater than the expense of control devices.

All of these impacts upon industry indicate that industry must take a deep and continuing interest in environmental matters on all levels and in all forms.

B. *The second problem relates to policy with regard to federally sponsored research and development.* The entire policy of the federal government in this area—most especially related to patent policy, the grant program (limited until the last Congress to nonprofit institutions), and the internalization of funds—has been directed towards the freezing out of industrial concerns. This in turn has resulted in a substantial amount of study unrelated to reality. We trust that the results of the hearings in the last Congress will be a change in this attitude.

Industry has a second role in pollution control, that of a polluter. For me to say industry does not pollute would be nonsense, for every human activity pollutes the environment. Nor will I hide behind the subterfuge of quoting the amount of money which industry has spent to solve the pollution problem. Many companies have made substantial efforts; clearly these are not enough. We will not dwell on the past because every facet of our society—industrial, municipal, and individual—contributed to the deterioration of our environment. Industry did not respond fully nor did any other part of society because the ground rules were different, the problem unrecognized, and the requirements unstated. The point is that industry has recognized the demands and requirements of today and is taking action. We have said that we will correct those deficiencies as measured by today's standards and most importantly we are doing so! We are expending time, effort, and money. The problems will not be solved overnight; even those well defined with obvious solutions require engineering and construction. Many problems are not defined nor are solutions available to all defined problems. But, we are committed to an action course. This involves careful evaluations of our existing plants, and their effluents and environments, and changes in processes and operational procedures. It involves site surveys, directives to process engineering concerns that industry wants processes and plants with lower emissions. It involves

dislocations in feedstocks and product lines. Most of all, it involves people—the training of operating and management personnel to “think clean,” and it involves a substantial increase in the academic world’s output of trained environmental engineers and scientists.

Most important, we must convince the bulk of American people that the upgrading of the quality of our life is a significant national goal. After all, most of the ugliness in our lives is a result of individual desires or actions. No industry creates the demand for slapstick subdivisions. No industry is backing up the Colorado River into the Grand Canyon. No industry litters Yellowstone and Yosemite with garbage and turns some of our most beautiful scenic locations into mirror images of our dirty cities and suburbs.

In short—industry and technology are ready to take up the “Lord’s work” but the American people must understand that it will require *their* time, effort, money, and devotion.