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U.S. General Accounting Office

Before the Subcommittee on Environment  
of the  
Senate Commerce Committee

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Mr. Chairman and Members of the Committee: Thank you for the opportunity to testify before your committee concerning our review of three studies of the costs to industry of the proposed Toxic Substances Control Act.

The three studies we have reviewed are:

1. Draft Economic Impact Assessment for the Proposed Toxic Substances Control Act, S.776, U.S. Environmental Protection Agency, June 1975.
2. Study of the Potential Economic Impacts of the Proposed Toxic Substances Control Act as Illustrated by Senate Bill S.776 (February 20, 1975), Manufacturing Chemists Association, June 1975.
3. Statement on S.776 and the Toxic Substances Legislative Issue, Dow Chemical U.S.A., April 1975.

Our work is in response to an earlier request from the Committee staff and a more recent request from Senator Hart to review the three studies. Because we had only a few weeks for this work, we confined our analysis to the information contained in the three studies. We did not have time and, therefore, have not attempted to verify the accuracy of basic technical data, such as the cost of performing a certain chemical test. Nor did we discuss the results of our analysis with the organizations which prepared the studies. Our comments deal mainly with the methodology of the studies -- whether they use the data properly to estimate costs.

A draft of our staff paper was provided previously to your staff and the final version is now submitted for the record.

In this study, we present an overview of the studies and then compare the estimates of each element of cost, so the Committee can see where the studies agree and where they disagree. In several instances, we point

out certain shortcomings in the studies, and finally we try to arrive at some judgment as to a reasonable range of cost figures. We have also tried to give a general perspective of how costs faced by industry fit into the broader picture of total costs and benefits that might be expected to result from this Act.

One of the main goals of the proposed Act is to make sure that information is provided on the potential dangers to people and the environment of new and existing chemical substances so that appropriate steps can be taken to guard against these dangers. Inevitably, producing such information involves costs. The crucial question is whether these costs are justified by the potential benefits. The three studies that we have reviewed addressed only a part of the whole problem -- the costs to industry. The possible benefits to society are discussed only in passing, and no attempt is made to measure the costs to the rest of society.

An example of costs to society that the proposed legislation would bring about is the inevitable delay in the marketing of new chemicals which are ultimately determined to be safe, but must first be tested. The studies which we have reviewed attempt to measure the costs to industry, in terms of delayed profits, but they do not measure the costs to consumers, who are prevented from using potentially valuable new chemicals during the testing period.

At this early date, all cost estimates are extremely uncertain. This is demonstrated by the studies themselves. For example, the EPA study gives a range of cost estimates. The high end is about double the low end. In the Manufacturing Chemists report the high end of the range is more than three times the low end. The estimate of cost in the Dow Chemical study is 25 times the lowest EPA estimate.

In making our comparisons, however, we found that there was reasonably close agreement between the EPA and the Manufacturing Chemists reports on the cost per test of new chemical substances. The main source of difference between the two studies lies the assumptions which they make about the number of new chemical substances which will require testing. This, in turn, appears to stem from a significant difference in interpretation of the requirements of the proposed Act.

As difficult as it is to predict the number of new chemical substances that will be produced, it is even more difficult to say in advance how many of them will have to be subjected to testing and how thorough the testing will have to be. Our reading of the proposed legislation, however, leads us to believe that the EPA interpretation is closer than the industry studies to an accurate picture of what the legislation will entail. The two industry studies seem to interpret the legislation as calling for testing of many chemicals when in fact screening and reporting is all that may be necessary.

Screening and reporting entail notifying EPA of a firm's intention to produce a chemical, the intended uses, the composition of the chemical, and other fairly straightforward information. Laboratory testing, which can be very costly, is not automatically required; it is up to the Administrator, who must decide in each case whether the testing appears to be necessary. It is possible that this difference in interpretation between the EPA and MCA studies results from the Manufacturing Chemists' report being based on the February 20, 1975, version of the bill. The June 6 working draft narrowed the definition of "chemical substance" and was more explicit than the earlier version in indicating when testing may be required.

Although there was some agreement upon the cost per test for new chemical substances, the studies varied markedly in their assumptions about costs of testing existing chemical substances, which is covered in Section 4 of the Act. The EPA study assumes that costs per test of existing chemicals will be about the same as the cost per test of new chemicals. We believe there is merit in the assumption (implicit in the other two studies) that the average cost of testing existing chemicals may exceed that of new chemicals. With new chemicals, the industry may choose at any time to drop the item if the testing becomes too expensive or the outlook for success begins to look too bleak. The situation is somewhat different, however, with existing chemical substances which the Administrator puts on the list of "highest priority candidates for the establishment of criteria for data development" (Section 4(c)). In these cases, the industry will already have made an investment in production facilities, inventories, sales efforts, etc. There will be a strong incentive to follow through with tests in order to protect this investment, even if the testing becomes very costly, rather than discontinuing production.

Our review also led us to conclude that the Dow Study, which gives by far the highest cost figure, is the least reliable. It is based upon an interpretation of the Act which seems to greatly overstate the amount of testing that would be required. In addition, it extrapolates from seemingly rough estimates for Dow Chemical to cost figures for the industry as a whole. Dow's sales are only about 4 percent of industry sales, and Dow's costs are not necessarily representative of the industry as a whole. In view of these factors, we consider the \$2 billion cost estimate in the Dow Study to be highly questionable.

The highest cost estimate by the Manufacturing Chemists' study is about \$1.3 billion. Half of this figure is a cost referred to as "maintenance of innovation." It is meant to represent the extra cost necessary to maintain the same rate of output of marketable new chemicals, given the assumption that many new chemicals would be kept off the market because they could not meet the new safety standards. In examining the rationale for this component of cost, we came to the conclusion that it was not justified and should not be included as a cost. The MCA survey questionnaire (on which the study was largely based) did not appear to provide a basis for the estimate. In addition, it was not clear to us why a firm would behave in such a way as to incur these costs. If they are excluded from the MCA estimate, it would bring the EPA and Manufacturing Chemists' cost figures much closer together.

The Manufacturing Chemists' study includes a section on the economywide effects of the Act. The study infers that the various testing and reporting requirements of the Act would increase the costs of producing chemical substances which in turn would have an impact upon employment and the rate of inflation. There may be some repercussions or ripples in the U.S. economy due to increased costs in the chemical industry, but we believe that there are other factors that offset these potential effects, such as the increased spending on testing. Furthermore, if as we believe, the cost figures presented in the Manufacturing Chemists' study are too high to begin with, the impact will be significantly less even without taking account of offsetting factors. Finally, any effort to make economic impact assessments this far into the future is automatically subject to a high degree of uncertainty.

With all of our caveats about the uncertainty of predictions in this area, and based only on the data available in the three studies which we reviewed, we believe the costs to industry will most likely fall within a range that included the EPA high estimate and went somewhat higher than that to take account of the likelihood that EPA has underestimated the costs of testing existing chemicals. This would yield estimates of cost in the range of \$100 to \$200 million per year.

Again we would point out that none of the studies have considered the potential benefits of the legislation. Whatever the costs might be, the benefits to society might still exceed those costs. This is particularly true of the costs of banning or restricting the use of chemicals that are shown to be dangerous. The bill, as it would stand if the staff amendments were accepted, would require that EPA consider the costs and benefits of each chemical individually before reaching a decision on whether or not that particular substance should be banned or restricted. Assuming that this provision is implemented wisely and carefully, it is reasonable to conclude that the result would be to ban or restrict only those chemicals where the dangers were sufficiently great to warrant the costs resulting from the action.

To the extent that there is uncertainty about the costs and benefits of the process which would be established by this bill, it is primarily in connection with screening and testing new chemical substances. Until there has been more experience with this or a similar process, it does not appear possible to predict the costs with any high degree of confidence, nor to predict confidently the numbers of dangerous substances which would be controlled under the Act and which, in its absence, would be permitted to go into general use.

Mr. Chairman, this completes my prepared statement. We would be pleased to answer questions.