

REMARKS OF THE HONORABLE RUSSELL TRAIN, CHAIRMAN
PRESIDENT'S COUNCIL ON ENVIRONMENTAL QUALITY

BEFORE THE SENATE COMMERCE COMMITTEE
SUBCOMMITTEE ON THE ENVIRONMENT

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Mr. Chairman, Members of the Committee, it is a pleasure to appear before you to testify in support of S.1478, The Toxic Substances Control Act of 1971. Since the Committee will have an opportunity tomorrow to hear testimony from Mr. Robert Fri of the Environmental Protection Agency, which will have administrative responsibility with respect to S.1478, I will confine myself to the basic concepts of this bill and the need for such legislation.

In the Spring of 1970, shortly after the Council on Environmental Quality came into being, we turned to the question of chemical substances which might endanger human health and the environment. A study initiated at that time resulted in the proposed Toxic Substance Control Act as part of the President's comprehensive program of environmental legislation, and a report this Spring, which I have made available to all the Committees of Congress. Allow me to highlight several of the findings in this report.

We live surrounded by growing amounts of new and displaced chemical substances, several of which pose hazards to human health or the environment even in minute quantities. Some 2 million chemical compounds have been identified and many thousands of new chemicals are discovered each year. Most new compounds are laboratory curiosities, but thousands of chemical compounds are already in commercial use and several hundred new chemicals are introduced into such use each year.

Approximately 9000 synthetic organic compounds were in commercial use by 1968. Production has been increasing from over 103 billion pounds in 1967 to nearly 120 billion pounds in 1968. In fact, chemical production over the past decade has averaged an annual increase in excess of 15%. With changes in industrial needs and technological knowledge, new and more complex compounds with new and different uses are constantly being developed and introduced into use.

Many of these chemicals ultimately are discharged into our water, air, and soil systems. After the substances enter the environment, they may be diluted or concentrated by physical forces, and they may undergo chemical changes, including combination with other chemicals, that affect their toxicity. The substances may be picked up by living organisms

which may further change and either store or eliminate them. The results of the interactions between living organisms and chemical species are often unpredictable, but such interactions may produce materials or concentrations that are more dangerous than that of the initial pollutants.

Many, perhaps most, metals are prerequisites to life, usually in trace amounts. However, some metals and/or their compounds can and do adversely affect human health if ingested or absorbed in excessive quantities. Serious adverse environmental and/or health effects, actual and potential, have been observed or indicated for roughly one-fourth of the metals in common usage today. A necessity of life at certain levels, they can be lethal at increased levels.

Without going into our experience with mercury pollution, with which your Committee is familiar, let me cite two other examples to illustrate the reason for our concern.

Take for example Polychlorinated biphenyls. PCB's, a group of chemicals also known as Aroclors, are among the most persistent organic chemicals. They degrade very slowly in the environment. This class of compounds has been widely used as an additive in the production of plastics. PCB's are generally not chemically bound in the plastics and there-

fore may be easily released to the environment. In addition to use as plasticizers, they have also been used in electrical transformers, inks, lacquer resins, and as lubricants, heat transfer fluids, and carriers for some insecticides.

Structurally PCB's resemble DDT. Like DDT, they are not soluble in water but can collect in high concentrations in the fatty tissues of living things. This chemical resemblance has made analytical differentiation difficult and as a result, it was only in April 1969 that PCB's in the environment were first recognized as residues in oysters in Escambia Bay, Florida.

Since this discovery, PCB's have been found in salt and freshwater fish, sediments, and water, and in crabs, shrimp, marine and terrestrial birds, seals, and man. A study of human tissue samples showed concentrations of from less than 1 part per million to as high as 250 parts per million. Another study found that over half the urban residents examined had detectable levels of PCB's in their blood.

Tests with PCB's have shown that concentration of 0.1 ppm were fatal to juvenile pink shrimp after 48 hours exposure and the same concentration stopped oyster shell growth in 96 hours.

A residue level of 5 ppm has been established by the Food and Drug Administration in marketed flesh. Within the last two weeks, a number of newspapers have reported that PCB contaminated broiler chickens are being tracked down in 12 southern states. Last year in New York's Sullivan, Orange, and Ulster countries alone, 146,000 chickens were destroyed because they were contaminated with PCB's

Because of the recent disclosure of chlorinated biphenyls in the environment, the full range and effects of these chemicals are yet to be determined.

Cadmium provides another example. Like all metals, cadmium does not degrade in the environment. Thus, as more cadmium is refined, used, and disposed of, increased amounts may reach man. Cadmium becomes a pollutant through a variety of processes and is being used in increasing amounts by the storage battery, plastics, plating, and petroleum industries.

The metal is concentrated in shellfish in nature by a factor of 900 to 1600 times. In man cadmium levels have been found to reach 30 milligrams total body burden in 50 years from a starting point of about 1 microgram at birth.

The effects of such accumulation vary according to the amount and time period of exposure. Some preliminary studies

indicate that exposure levels of cadmium from sources present in the everyday environment may lead to hypertension, heart disease, and emphysema and perhaps to cancer. In the most publicized case of cadmium poisoning, over 100 persons died after eating rice irrigated by water from a cadmium polluted river in Japan in the 1950's.

We should provide for methods to evaluate and if necessary regulate that production and use of toxic substances such as PCB's and cadmium, which we find pose a significant threats to human health or the environment. Existing law does not entirely ignore these types of potentially harmful substances. Current laws, however, are inadequate to control the actual and potential damages of toxic substance comprehensively or systematically.

Toxic substances are now dealt with partially in the Hazardous Substances Act, section 12 of the Federal Water Pollution Control Act, the recent amendments to the Clean Air Act, and certain authorities of the Department of Transportation.

The Hazardous Substances Act covers household products and toys - but not the raw materials from which they are manufactured. Thus, it does not deal directly with most of the toxic substances which find their way into our environment.

Section 12 of the Federal Water Pollution Control Act is generally aimed at accidental spills of hazardous substances into water and thus does not completely cover either continuous discharges into water or releases into other media. Administration proposals would provide for effluent standards on toxic substances, but would not prevent their introduction into the environment through other than direct discharges. Moreover, even with the aid of Amendments to the Water Pollution Control Act, it will be virtually impossible to control the introductions of certain potentially toxic substances through sources such as municipal plants without some control over their use and distribution.

The Clean Air Amendments of 1970 authorize emission standards and other measures for all existing and new sources of air pollutant emissions including substances found to be toxic.

The Department of Transportation regulates interstate transportation of hazardous substances under several authorities. Most of the problems of toxic substances, however, relate to aspects of their use rather than to transportation and spills.

The current controls over the manufacture and distribution of the substances we are concerned about pertain to only a small percentage of the chemical substances which find their way into the environment. What controls over production and controls over effluents there are, suffer from the limited focus of their authority.

Setting rational standards for many pollutants under existing legislation is almost impossible. The key factors involved in setting standards are the total human exposure to a substance and its total effect on the environment. An obvious limitation of the controls over effluents is that they generally deal with a problem only after it is manifest. They do not provide for obtaining information on potential pollutants before widespread damage has occurred.

Our awareness of environmental threats, our ability to screen and test substances for adverse effects, and our capabilities for monitoring and predicting, although inadequate, are now sufficiently developed that we need no longer remain in a purely reactive posture with respect to chemical hazards. We need no longer be limited to repairing damage

after it has been done; nor should we allow our population to be used as a laboratory for discovering adverse health effects. There is no longer any valid reason for continued failure to develop and exercise reasonable controls over toxic substance in the environment.

The proposed Toxic Substances Control Act (S.1478) would provide a mechanism for the comprehensive and systematic control of hazardous substances in our environment.

Under the proposed bill, the Administrator of the Environmental Protection Agency would be empowered to restrict the use or distribution, including a total prohibition, of a chemical substance, if such restrictions were necessary to protect health and the environment. In proposing such restriction the Administrator would be required to consider not only the adverse effects of the substance but also the benefits derived from the use of the substance as compared with the risks; the normal circumstances of the use; the degree to which the release of the substance or its byproducts to the general environment is controlled; and the magnitude of the exposure of humans and the environment to the substance or its byproducts.

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The bill also provides for the issuance of standards for tests on the various classes and uses of new chemical substances. A new compound would be forbidden to be marketed if it did not meet these standards. This concept must be implemented carefully so as not to thwart technological innovation, and we must also keep in mind the impossibility of conclusively providing that a product is safe.

In addition to these major authorities, S.1478, would enable the Environmental Protection Agency to develop the resource necessary to predict the introduction of new chemical substances into the environment and to assess the environmental consequences of such introduction, and would charge the Council on Environmental Quality with coordinating efforts to establish a uniform system for classifying and handling information on chemical substances.

We believe that the provisions contained in the Administration bill are necessary and workable, and that they present a sound framework for a balanced and rational scheme of toxic substances regulation.

Mr. Chairman, that concludes my prepared comments on S.1478. If I may, however, I would like to very briefly comment on some of the provisions in Amendment No. 338 to S.1478, introduced by Senator Spong on July 27, 1971.

I thank Senator Spong for his support of the Administration bill and appreciate his careful study and efforts to improve it.

The Council is concerned, however, that requirements for preclearance certification, mandatory reporting of tests, taxation, and reimbursement for testing, for the many chemicals covered under Amendment 338, could involve stifling and cumbersome administrative procedures and dilute the ability of the Administrator to effectively and efficiently regulate the most significant hazardous materials. With respect to the Sections of Amendment 338 which refer to Seizure, and Confidentiality, we feel that S.1478 adequately and effectively covers these areas. With respect to citizen suits, our general position is that we will accept a citizen suit clause to enforce mandatory duties of EPA and federally sanctioned pollution control standards. S.1478 does not involve these features to the extent that a citizen suit clause would be appropriate.

Because toxic substances present such important environmental problems, we have attempted to draft as an effective a bill as possible. We have sought to provide comprehensive and systematic mechanisms for the control of hazardous chemicals, while at the same time, avoiding excessive administrative burdens.

Thank you for the opportunity to appear and present these additional comments on the pending legislation. I will be glad to answer any questions you may have.