understanding and support of programs for the control of the solid waste management problem.

Question 8: What research and development work is considered desirable to solve the increasing problem of disposable packaging and container material while at the same time giving consideration to the values of convenience of such packaging and container material to our society?

Answer: Several areas need to be investigated in detail to identify the critical factors involved in dealing with the disposable packaging and container material problem that is accentuated by industry's efforts to increase consumer convenience. Technical and economic studies should be carried out to determine the "total" costs involved in the use of alternate packaging materials. It seems fairly obvious that the indirect or hidden costs to the consumer, or more broadly the costs to society, of using packaging materials that are difficult or hazardous to dispose of is not being considered by manufacturers. Research and development work is needed to make commercially available soluble or biodegradable packaging materials, such as the newly developed "water soluble" paper.

Additional developmental work is needed to establish reasonable limits on the minimum product payload for many types of consumer products. Since many products have traditionally been marketed in in bulky packaging that contains relatively little of the product destined for the consumer's use, there would seem to be a legitimate need for research and development efforts to devise packaging that satisfies the seller's requirements to compete in the marketplace through attractive presentation of his wares but also keeps to the practical minimum the amount of waste which the consumer has to dispose of in the form of packaging or wrapping materials.

The feasibility of legal restrictions or economic incentives governing or influencing the use of nonreturnable containers requires considerable study, particularly with respect to containers whose disposal may be hazardous. The cost of returning insecticide drums, for example, may actually be considerably less than the cost of their disposal.

Question 9: How can Federal research and development be used to overcome "the planned obsolescence" feature of our economy in order to promote improved waste management procedures?

Answer: The subject of planned obsolescence, as it related to solid waste management, to economics, to public attitudes, and to conservation—and this is only a partial list of the research and development areas that are applicable—raises questions which the Nation has barely begun to recognize, let alone attempt to answer. If viewed only from the standpoint of the control of solid wastes, planned obsolescence is an area in which the Federal Government could well make a substantial research and development investment. However, it is difficult, perhaps impossible, to separate the many interrelated factors involved in planned obsolescence, factors, including the labor market, consumer buying practices, utilization of natural and manmade resources, and others which bear only tangentially on the technology of solid waste disposal.

Although not specifically a research and development undertaking, the Federal Government could devise and apply specifications for many