

There are several special solid waste problems caused by technological advances in a particular industry or by other sociological and economic progress. As urban renewal and slum clearance grows, what does one do with the mountains of demolition material which results from this endeavor? Our country is the most affluent society in the world and has to worry about more abandoned automobiles than any other country has traveling down their highways. Sophisticated methods have been developed by private industry to compact and reclaim these vehicles but how about transporting them economically to the site and preparing or stripping them for disposal or reclamation without causing air pollution? Old railroad cars have for decades been ignited to dispose of the wooden portion and allow salvage of valuable metal parts. This can no longer be tolerated because of the threat to our air resources—but what do we do with them?

A Public Health Service research grant to New York University supported the development of a special incinerator to handle demolition material and other bulky solid wastes economically and effectively control particulate emission to protect air resources. This incinerator is now being constructed by the City of Stamford, Connecticut, partially supported by a Public Health Service solid waste demonstration grant.

The contract mechanism is being used to develop effective ways to dismantle old railroad cars to eliminate air pollution caused by burning these vehicles in the open. One approach is a special hood enclosing the entire car, but one of more promising value is a technique which eliminates burning altogether. A jet of high pressure water is used to cut through the wood and separate the metal fittings from the body of the car. This technique is being further investigated to see if it might have value in stripping unwanted material (rubber, upholstery, etc.) from abandoned automobiles prior to their disposal without utilizing incineration techniques. The technique might also be used to reduce the volume of bulky wastes.

A very special problem is now facing those in the Nation concerned with the disposal of solid wastes. This is the problem associated with packaging materials and disposable containers. The problem is really two-fold. First the increased use of this material in recent years has caused a significant increase in the volume of solid wastes that must be handled by the community and second, the nature of the disposable material is such that much of it is not amenable to decomposition and, therefore, presents special disposal problems. "Eternal" plastic and "unrustable" aluminum have made their way into solid waste technology and must be coped with if we are to effectively manage solid wastes.

A contract was awarded to study feasible methods of disposing of polyethylene plastic waste while another contract was awarded to the Midwest Research Institute to make a thorough study of packaging materials, trends in this industry and possible solutions which would be amenable to solid waste disposal without wrecking the industry. A part of this study includes the consideration of needed legislative programs to cope with this problem. I shall refrain from further comment on this subject since this Committee will hear from a representative of Midwest Research on this important problem. When this study is received it will be evaluated by our technical personnel and our future course of action determined.

The Solid Waste Disposal Act also directs the recovery and utilization of potential resources in solid wastes. Transformation of solid waste into a beneficial product has the advantage of disposing of a waste product, conservation of natural resources, and economic benefit which lowers the net cost of disposal. A Public Health Service research grant to the University of Florida is supporting development of a method to convert citric processing plant waste to citric acid. Another research grant to the University of Maryland is supporting investigation of the possibility of transforming wastes formed in the production, packaging, and canning of vegetables and cheese, to new foods or food additives.

The research staff of the Solid Wastes program has a section devoted to the development of new uses for solid wastes. One internal project is attempting to transform cellulose from solid waste into sugars. Another project stresses the possibility of chemical transformation of solid wastes into protein. Still another is attempting to transform waste rubber into useful new rubber materials by improvement of separation techniques and changing technology to allow a greater proportion of used rubber in new products. Other internal research studies are studying the recovery of useful inorganic and organic compounds from incineration residue, animal, and vegetable wastes.