

Senator ANDERSON. Mr. Lazare?

If you feel, Mr. Lazare, you want to read only a portion, we will print it all in full.

Mr. LAZARE. Well, I can leave out certain portions of it, but I think it might be interesting if I carried it out in full.

Senator ANDERSON. Go ahead.

**STATEMENT OF LEON LAZARE, GENERAL PARTNER,
THE PURAQ CO., PHILADELPHIA, PA.**

Mr. LAZARE. My name is Leon Lazare, I am the general partner of the Puraq Co.

The purpose of this statement is to illustrate how the Saline Water Act and its administration failed in a particular situation that could provide the economic solution to the sea water desalination problem, particularly in large installations. Involved is the Puraq process for sea water desalting, which, at its present stage of development, indicates savings of 30 to 40 percent in cost of desalinated water over the present process of choice, multistage flash distillation (MSFD). We are a limited partnership and this partnership raised money through a series of sales of offerings through the small issues branch of the SEC. We have no underwriters and we raised about \$550,000 from two issues.

The personnel of the company and many of its limited partners have impressive scientific and engineering credentials. I, and the company's chief chemist, Stephen Jakabhazy, both have the Ph.D. in physical chemistry, and I have many years' experience both in academe and in industry. The list of limited partners even includes a former chairman of the AEC as well as scientists of eminence and achievement.

The process is patented (U.S. Patent No. 3,386,913) and applications for patents have been filed in 25 countries; most of these patents have been granted, the remainder being processed. Since the invention is very novel, invoking for the first time some very basic physical chemical principles the patent claims are very basic and broad. This is generally not the case in the desalination field—basic innovations are rare, the last one being reverse osmosis, an invention already 20 years old, with membranes suitable for sea water desalting still not developed. All other inventions in the field are really design improvements, falling well outside the definition of basic innovation.

The Puraq process involves liquid-liquid extraction of desalted water from sea water, using specially synthesized polymeric solvents which have the property of absorbing the required amount of water at a given temperature, rejecting the salt, and also not contaminating the coexistent aqueous phase with solvent. Thus the brine concentrate is returned to the sea essentially free of solvent, and the product water, which is separated by decantation from the solvent at an elevated temperature, is also solvent-free. This important property is due to the polymeric structure of the solvent, and is the physical basis of the invention.

The overall result of this essential property is a flowsheet which is far more economical than any other sea water desalting process, either in use (such as multistage flash distillation) or being given active consideration by the Office of Saline Water. In effect, the plant is physi-