

Within twelve hours of the accident, we had a functioning team at the scene and were coming to grips with the problem. Our activities included:

- Assisted in the organization of agencies; Federal, Commonwealth, and otherwise, in developing and coordinating a plan of action.

- Particularly directed advice to the Puerto Rico Department of Public Works (assigned as clean-up agency by the Commonwealth) in the manner in which clean-up might be accomplished.

- Endorsed Commonwealth request for release of U. S. Navy equipment and personnel to attempt removal of bow section to sea.

- At the outset outlined disadvantages involved in the use of detergents and emulsifiers in the briefings with the other agencies.

- Assisted in locating difficult-to-obtain equipment needed for treatment and removal of spilled oil, e.g., diaphragm pumps and adsorbent materials.

- Performed tests relative to the feasibility of using sorbent materials for oil removal.

- Initiated and cooperated in the evaluation of actual and potential damage to aquatic life from both the oil alone and from the various schemes considered for oil pollution abatement.

- Assisted in dissemination of the information to the news media relative to status of oil removal.

One area of particular note was our advice relative to the massive use of detergents. We recommended against such massive use because of damage to aquatic life, the cost, and damage to beaches. The cost of detergents to disperse 1,000,000 gallons of crude oil would approach \$1 million plus the cost of application; deterged oil would cause the beaches to become "quick" and more subject to rapid erosion; and massive dousing of San Juan Harbor with oil and detergent would have killed virtually all aquatic life including an estimated 2,000,000 lbs. of fish. Our recommendations were reflected in the actions of the Commonwealth government which evolved a policy of "no soap" on the shore and harbor areas.

Another spill of serious note was the railroad accident at Dunreith, Indiana, January 1, 1968, which spilled a cyanide compound into a tributary of the Big Blue River. Engineers, chemists, and laboratory and field equipment were rushed to Indiana from our Ohio Basin installations to provide technical assistance in neutralizing the poison to safeguard downstream water supplies. Prompt action by the State of Indiana assisted by our Ohio Basin Regional averted major disaster. No persons died or became ill from this pollutional spill; the only major casualties being some livestock.

Recently, our contingency plans and technical expertise have played a role in other spill incidents, including:

- Pipeline break in James River, Virginia.

- Pipeline break in Bayou Boeuf, Louisiana.

- Sunken barge in Columbia River, Washington.

- Sunken tanker, *R. C. Stoner*, Wake Island.

- Disabled tanker, *Pegasus*, off East Coast.

- On scene pollution control expert during removal of grounded tankers: *Wappelo* and *Verena*, Sandy Hook, New Jersey.

- Permanent assignment of aquatic biologist to Anchorage, Alaska to monitor oil pollution from off-shore drilling, oil loading, and transportation.

Further, within the Department of the Interior, the Federal Water Pollution Control Administration has called on and received expert assistance from such agencies as the Bureau of Sport Fisheries and Wildlife and the Bureau of Commercial Fisheries in several of these spill situations. Technical expertise and competence with coverage throughout the Nation's watersheds give the Department of the Interior the necessary tools to make the judgments necessary to protect our water resources and to complement the excellent air and sea capabilities of the Coast Guard for surveillance and marine reaction.

Secretary UDALL. I know the committee members will have questions, and we have all the experts at the table here. I hope we can be responsive to most of your questions.

Mr. BLATNIK. You may read part of it or you can summarize a will, Mr. Secretary.