FIU Applied Research Center
Florida International University

PermaFix environmental services

Applied Research Center presents

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The Evolution of Chemical Waste Treatment in the Nuclear Industry
Simple Solutions for Complex Problems

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Abstract:

A review of the nuclear waste treatment regulations indicates a lack of a rational environmental approach to deal with the problems of the nuclear industry's waste. In fact, a few simple truths point out the depth of the problems at the federal level: No landfill standards, No treatment standards for radio isotopes of concern and rules that exist for high level waste that are not rational.

Before we look at a new path for nuclear waste treatment, let's first review the history of the industry and Perma-Fix Environmental Services, Inc.

The U.S. nuclear waste treatment industry was born in the 1980s and early 1990s with the end of the Cold War, the peak of commercial nuclear power, and after implementation of federal regulations that drove new disposal requirements for radioactive waste generators containing hazardous materials. New regulations resulted in soaring costs for radioactive waste disposal, and thus an industry was born that focused on recycling, volume reduction, and waste form improvement. New treatment facilities and technologies were started that primarily dealt with low-level radioactive wastes and involved volume reduction; however, there was little to no treatment capacity for wastes commingled with hazardous chemicals. Large volumes of "mixed wastes," of which many became known as "orphan wastes," were being stored on U.S. Department of Energy (DOE) sites with no path for disposal and thus posed a risk to workers, the public, and the environment.

Perma-fix Environmental Services, Inc. (Perma-Fix), which started in the hazardous waste industry in 1990 and had developed facilities and technologies to treat hazardous wastes, evolved in the late 90's to meet this mixed waste market opportunity. By adapting our technologies and collaborating with waste generators to understand their needs, we successfully developed treatment and disposition solutions for some of the most challenging mixed wastes in the U.S.

Bio:

Dr. Louis F. Centofanti has been widely recognized as a leader in a waste reclamation and chemical and energy development in the Southeastern United States. His long-standing career accomplishments include serving as Regional Administrator for the U.S. Department of Energy, developing and commercializing the PPM process which has become the preferred method of treatment for PCB-contaminated oils, founding and successfully growing and selling his first company, PPM, Inc. and founding and taking public Perma-Fix Environmental Services, Inc. (PESI).

For his efforts, Dr. Centofanti has received numerous commendations including a special award from the U. S. Department of Energy in 1990, the Governor of Florida's Energy Award in 1981 and an award from the Governor of Mississippi in 1979. In 1980, Dr. Centofanti was appointed an honorary member of the Alabama Energy Board. Because of his work with the PPM process and PPM Inc., the Advanced Technology Development Institute of Atlanta selected Dr. Centofanti as Georgia's 1985 Entrepreneur of the Year.

Dr. Centofanti has a long list of past and present community, civic and professional associations including the Sierra Club, the American Chemical Society, the Coalition for the Environment and the Democratic National Committee-Business Council.

Dr. Centofanti is a member of the Carter Center Board of Councilors, and was in 2015 appointed by the Secretary of Commerce to the Civil Nuclear Trade Advisory Committee.

He holds a B.S. degree in chemistry from Youngstown State University, a M.S. degree and Ph.D., both in chemistry, from the University of Michigan; he studied his post-doctoral fellowship at the University of Utah.