



*Jack E. McKee*

## JACK EDWARD McKEE

*1914-1979*

BY EDWARD J. CLEARY

**JACK** EDWARD McKEE, Professor of Environmental Health Engineering at the California Institute of Technology, died October 22, 1979, at his home in Newport Beach, California. In addition to his academic pursuits, he was a Partner in Camp, Dresser and McKee, Inc., a Boston-based firm of sanitary engineering consultants.

Dr. McKee was distinguished as an inspired teacher, a creative conductor of research, and an innovative practitioner in devising engineering solutions for environmental problems. His influence, which was international in scope, was enhanced by a generous disposition to share his time and talents for the advancement of professional objectives. Toward the end he was indefatigable in generating support of colleagues and promoting recognition of their contributions.

If time and place of birth have a conditioning influence on the choice of career, it becomes apparent why Jack McKee became a specialist in matters associated with pollution of air and water resources. He was born in Pittsburgh, Pennsylvania, on November 9, 1914. At that period and throughout his youth, his environment was what then was known as the Smokey City, surrounded on two sides by rivers fouled by indiscriminate discharge of industrial wastes and sewage from a million inhabitants of the region.

Undoubtedly his sensitivity for control of environmental degradation was reinforced during his undergraduate training at the Carnegie Institute of Technology, where he received a bachelor's degree in

civil engineering in 1936. For a year thereafter he found a more agreeable environment as a flood forecaster with the Tennessee Valley Authority . Scholastic aspirations then led him to Harvard University. There he attained his master's degree and doctorate under the tutelage of the late Gordon M. Fair, Professor of Sanitary Engineering and a member of the National Academy of Engineering.

After completion of graduate studies in 1941, he married Ruth Yeaton, by whom he had two sons and a daughter. Following a short period of service with the U.S. Public Health Service, Dr. McKee transferred to the U.S. Army Corps of Engineers and attained the rank of Major prior to demobilization in 1946. As a Sanitary Engineer Officer he participated in the Normandy campaign and was later assigned to the civil affairs and military government in the European theater.

Returning from war service, he joined Thomas Camp, former Professor of Sanitary Engineering at Massachusetts Institute of Technology, and Herman Dresser in establishing a consulting firm. All of the founding partners of Camp, Dresser and McKee are now dead, but the organization they nurtured has grown to include some 1,400 employees engaged in the design of sanitary engineering projects throughout the world .

Within a few years an even greater personal challenge began to assert itself to Dr. McKee. He was possessed with the notion that teaching and research in sanitary engineering should be broadened to embrace a more holistic approach to newly emerging environmental problems. Thus, in 1949 he eagerly accepted an appointment to the faculty of the California Institute of Technology. According to Fred Lindvall, then Chairman of the Department of Civil Engineering , "Dr. McKee was not invited to fill a staff vacancy but given carte blanche to create a new program."

Displaying missionary zeal, Dr. McKee's efforts gradually added a new dimension to the otherwise well-established excellence of the university. Its physical manifestation is the W M. Keck Laboratory of Environmental Health Engineering. Its contribution to society has been the training of some 200 engineers , more than half of whom attained master's and doctoral degrees and who today may be counted among the leaders in the environmental affairs of government, industry, and universities.

Additionally, Dr. McKee's research endeavors continued to offer new insights into scientific and engineering aspects of environmental quality management. These included the application of molecular filter techniques for the bacterial assay of sewage, the reclamation of wastewater by pressurized recharge of aquifers, an assessment of the impact of nuclear power production on the quality of natural waters, and the stabilization of wastes in space environments. This is but a sampling of the provocative questions that were probed by Dr. McKee and his colleagues and which have richly contributed to advancement of environmental health management.

One of his crowning achievements was the assembly, condensation, and evaluation of all the available technical and legal literature pertaining to water quality and its effects upon the beneficial uses of water. Titled *Water Quality Criteria*, this compendium was completed in 1952 for the California Water Pollution Control Board. It is regarded as a definitive text for all those who seek to exercise judgment in the administration of rational decisions for the management of pollution control.

Widely honored for his professional accomplishments, Jack Edward McKee was elected to the National Academy of Engineering (NAE) in 1969. In 1970 he was appointed Chairman of the National Research Council Committee on Air Quality Management as well as a member of the NAE Committee on Engineering Aspects of Environmental Quality. His many public service activities included chairmanship of the Sanitary Engineering and Occupational Health Council of the National Institutes of Health, membership on the Reactor Safeguards Committee of the Atomic Energy Commission and, more recently, on the California Council for Environmental and Economic Balance. He was a member of twelve scientific and professional organizations.

Dr. McKee's honors included the Clemens Herschel Award in hydraulics from Harvard University and the Desmond Fitzgerald Medal of the Boston Society of Civil Engineers. He also received the Rudolf Hering Medal in sanitary engineering, the Karl Emil Hilgard Prize, as well as the Edmund Friedman Award, all bestowed by the American Society of Civil Engineers.

In 1960 Dr. McKee was President of the Los Angeles section of the American Society of Civil Engineers, and in 1963-1965 he

served as a National Director of the society. In 1962-1963 he was President of the Water Pollution Control Federation.

This commentary on the professional achievements of Jack McKee cannot overshadow another distinction that he highly prized. He was the organizer, leader, , and banjo virtuoso of the Caltech Dixieland Jazz Band. This aggregation of about ten musicians (said to be the most harmonious interdisciplinary group on the faculty) favored their listeners with joie de vivre, particularly at the annual garden party for engineers that he hosted at his home. But probably their best-remembered performance will be that at the memorial services for Dr. McKee. Shortly before his death he prepared a written request that the band be included at the services and that they play, among other songs, "Please Don't Talk About Me When I'm Gone." This offers another glimpse of the personality of Jack McKee, whose wit made him beloved by **all** his peers and students.

Dr. McKee is survived by his second wife, Dorothy, and three children, Douglas Edward, Richard C., and Katherine Alice.

