



Y. Paine

Thomas O. Paine

1921-1992

By Edward E. Hood, Jr.

THOMAS O. PAINE, a former administrator of the National Aeronautics and Space Administration (NASA), a long-time General Electric (GE) research scientist and executive, and later president and chief operating officer of the Northrop Corporation, died of cancer on May 4, 1992, at the age of seventy.

Dr. Paine's greatest accomplishment came in his nearly three years with NASA, first as deputy administrator beginning in January 1968 and then as administrator from March 1969 to September 1970. These were among the most historic and heroic years in the history of the space program. The first seven Apollo missions were launched, twenty astronauts orbited the earth, fourteen flew to the moon, and four men walked on the lunar surface. Dr. Paine will be best remembered as the man who directed these feats of science, engineering, and exploration.

Tom was born in Berkeley, California, on November 9, 1921. He earned an A.B. degree in engineering from Brown University in 1942. Tom served as a naval officer aboard combat submarines in the Pacific during World War II and, after the war, married Barbara Helen Taunton Pearse of Perth, Western Australia.

Tom earned an M.S. and Ph.D. in physical metallurgy from Stanford University, where he initiated research on liquid metal heat transfer systems for advanced submarine reactors. From Stanford, Dr. Paine joined the General Electric Laboratory in Schenectady, New York, where he conducted studies on mag

netic and composite materials. This work led to the first demonstration of the shape anisotropy effect in single-domain magnetic particles, and to worldwide basic patents of "Lodex" permanent magnets.

Tom moved to Lynn, Massachusetts, where he managed materials development at the GE Meter and Instruments Department. Later, as laboratory manager, his projects ranged from development of photo cells and non-arc-tracking organic insulation to solid-state nuclear reactor control systems and aircraft instrumentation. For the successful fine-particle magnetic development program, Tom's laboratory received the 1956 award for "outstanding contributions to industrial science" from the American Association for the Advancement of Science.

He returned to the GE Research and Development Center in Schenectady in 1959 as manager of technical analysis before becoming manager of engineering applications. In the latter capacity, he organized and managed a new laboratory component engaged in development programs in fields ranging from medical electronics and electric vehicles to power sources in villages in developing nations.

In 1963 Tom moved to Santa Barbara, California, to manage GE's Center for Advanced Studies, an innovative four hundred-man "think-tank" conducting nondisciplinary planning research for government and industry in the United States and abroad. These programs ranged from developing criteria for selecting "model cities" to logistic support systems for Polaris submarines, and from designing computerized management systems to economic development projects in Africa.

On January 31, 1969, President Johnson appointed Tom Paine deputy administrator of the National Aeronautics and Space Administration. Upon the retirement of James E. Webb on October 8, 1968, President Johnson named Tom to be acting administrator of NASA. His nomination as administrator was announced by President Nixon on March 5, 1969, and confirmed by the Senate on March 20, 1969. It was during his tenure that the first seven Apollo manned missions were flown, including the historic Apollo 11 mission, which first landed men on the

moon in August 1969. Many automated scientific and applications spacecraft were also flown in Earth orbit and out as far as Mars. He organized a number of successful international programs through which other nations participated in U.S. space operations.

Tom returned to GE in late 1970, becoming vice-president and group executive of GE's Power Generation Group (Worldwide Nuclear Power and Steam and Gas Turbines). Tom capped his distinguished twenty-five-year GE career as senior vice-president for science and technology before becoming president and chief operating officer, and a director, of the Northrop Corporation in 1976.

Tom retired from Northrop in 1982 to become chairman of Thomas Paine Associates, consultants in high-technology enterprises. Tom served as a director of Eastern Airlines, RCA, NBC, Arthur D. Little, NIKE, Quotron Systems, SatScan, and Orbital Sciences Corp. He also served as chairman of the Pacific Forum; a trustee of the Committee for Economic Development, the Asian Institute of Technology (Bangkok), and Occidental College; and a member of the Visiting Committee of the East-West Center of the University of Hawaii.

In recognition of his outstanding career in both private industry and public service, Tom Paine was elected to the National Academy of Engineering in 1973.

Tom was the author or coauthor of more than thirty-five published technical papers and held several patents. He was a fellow of the American Institute of Aeronautics and Astronautics and the American Astronautical Society, and a member of the American Physical Society, the American Institute of Electrical and Electronics Engineers, and other scientific and engineering societies. He held honorary degrees from various universities in the United States and overseas and was awarded the U.S. Navy Commendation Medal and Submarine Combat Insignia with stars, the NASA Apollo Achievement Award and its Distinguished Service Medal, the Order Al Merito Della Repubblica Italiana, the Washington Award from the American Society of Civil Engineers, the John Fritz Medal of the United Engineering

Trustees, the Humanitarian Award of the National Conference of Christians and Jews, and the Faraday Medal of the Institution of Electrical Engineers (London).

Tom is survived by his wife, Barbara, and their four children, Marguerite, George, Judith, and Frank.

Tom Paine was an engineer who applied his science in both the private and public sectors, for the benefit of both the United States and the world. His life and work made history.

