Kistler Aerospace Corporation

G. E. Mueller

GEORGE E. MUELLER

1918–2015

Elected in 1967

"Electronic systems engineering."

BY ROBERT L. CRIPPEN

GEORGE EDWIN MUELLER, an excellent systems engineer and an outstanding manager, was born in St. Louis, Missouri, on July 16, 1918. His parents, both born in the United States, were of German descent. His mother, Ella Florence Bosch, worked as a secretary before marriage; his father, Edwin Mueller, was an electrician. George attended the Benton School in St. Louis through the 8th grade, when his family moved to Bel-Nor, a small town outside St. Louis. There he became interested in science fiction and in building model airplanes and radios. He graduated from Normandy High School in 1934.

George initially planned to study aeronautical engineering, but the only college he could afford, the Missouri School of Mines and Metallurgy at Rolla, did not offer that curriculum. He began his studies in mechanical engineering but soon switched to electrical.

When he graduated in 1939 the economy was still recovering from the Great Depression and a suitable industry job did not present itself. Having won one of the first television fellowships offered by RCA, he elected to attend graduate school at Purdue University, where he participated in building a television transmitter on campus. He received his master's degree in electrical engineering in 1940, joined Bell Labs, and moved

to New York City. A year later, he married Maude Rosenbaum, from St. Louis.

At Bell Labs George conducted TV research until the nation went to war in 1941, at which time he became heavily involved with airborne technology and was given the task of building Bell's airborne radar. It became obvious that to have increased responsibility at the Labs, he would need a PhD so, while continuing to work, he began work on a doctorate at Princeton on a part-time basis.

At Bell he was encouraged to set up a vacuum tube lab and run a communications group at Ohio State. He moved there and taught electrical and systems engineering while doing his PhD research on dielectric antennas. He received his doctorate in physics in 1951.

In 1955 he took a one-year sabbatical to work at Ramo-Wooldridge Corporation (which became TRW), where he was involved with radar designs including the Bell Labs radar for the Titan rocket. He also did work on inertial systems for the rocket. He found this first exposure to the ballistic missile program fascinating.

George returned to Ohio State but continued working as a consultant for Ramo-Wooldridge until 1957, when he joined the company full-time as director of the Electronics Laboratories, which became the Space Technology Laboratories. He was vice president for research and development and his responsibilities grew as he worked on missile systems, where he became an advocate for "all-up" testing.

In the early 1960s, shortly after President Kennedy announced the goal of sending a man to the Moon and returning him safely to Earth within the decade, NASA administrator James Webb approached George about taking over the Office of Manned Space Flight. After some inquiries George said he would accept the job if the agency was restructured to make it more efficient. That was done and in 1963 he became the associate administrator for the Office of Manned Space Flight, the office charged with meeting the Moon objective.

Faced with slipping schedules and cost overruns, George realized that the only way to achieve the objective was to use

the "all-up" testing concept, which was contrary to Wernher von Braun's strategy of staged testing. He finally convinced Dr. von Braun and others that "all up" was the only viable approach, and full-up testing of the Saturn V was adopted. This resulted in the third flight of the Saturn V sending Apollo 8 around the Moon.

In addition, George reorganized the Gemini and Apollo Program Offices in accordance with his concept of system management, providing much better program overview. And he was responsible for getting the Air Force involved with the program, bringing hundreds of experienced program managers from the military, especially the Air Force, into the civilian space agency.

During the Apollo Program, he recognized the need for a post-Apollo program and promoted ideas for a manned lunar base, a manned mission to Mars, and an orbiting space station. Budgets did not allow for all of them and his plan was reduced to the Apollo Applications Program that produced Skylab, the nation's first manned space station.

George Mueller is credited with initiating the Space Shuttle Program. He was involved in many key decisions about the shuttle and, although a promoter of a totally reusable space transportation system, he remained a champion for the Space Shuttle. He was also instrumental in making the decision that the shuttle be a joint program of the Air Force and NASA.

In 1969, after the second successful lunar landing, he left NASA to rejoin private industry. He worked for a short time at General Dynamics Corporation and then became the chair, president, and CEO of the System Development Corporation (SDC) in Santa Monica. A spinoff of the Rand Corporation, SDC developed the software for the North American air defense systems primarily for use by the Air Force.

During George's decade of leadership at SDC, he transformed the company from a small struggling not-for-profit into a solid commercial success. He also continued his involvement in some of nation's most important programs, serving on government boards and committees at various agencies, including NASA and the Air Force. He retired from SDC in

1984. In 1995 he joined Kistler Aerospace, a company committed to the development of a fully reusable launch vehicle, as its CEO. He retired in 2006 at the age of 88.

George was active in many professional societies. He served as president of both the International Academy of Astronautics (IAA) and the American Institute of Aeronautics and Astronautics (AIAA). And in addition to his NAE membership, he was an honorary fellow of the AIAA and the British Interplanetary Society, and a fellow in the IRE/IEEE, American Association for the Advancement of Science, American Astronautical Society, Royal Aeronautical Society, American Geophysical Union, and Institute for the Advancement of Engineering.

Among his numerous awards were the National Medal of Science, the Goddard Astronautics Award, and the Smithsonian National Air and Space Museum Trophy for Lifetime Achievement.

Dr. George E. Mueller passed away on October 12, 2015, at the age of 97. He is survived by his wife of 37 years, the former Darla Hix Schwartzman; two daughters from his first marriage, Karen Hyvonen and Jean Porter; two stepchildren that he helped raise, Wendy Schwartzman and Bill Schwartzman; 13 grandchildren; and 13 great-grandchildren.