Lee S. Gaumer

LEE S. GAUMER

1926–2010

Elected in 1992

"For contributions to cryogenic gas liquefaction and separation technology, especially for the production of liquefied natural gas."

SUBMITTED BY THE NAE HOME SECRETARY

LEE STROHL GAUMER, a chemical engineer who contributed creatively to the field of cryogenics for over 37 years, died July 24, 2010, at the age of 84.

Born in Palmerton, Pennsylvania in 1926, Lee was the son of the late Lee Strohl Gaumer, Sr., and the late Mary Louise (Kistler) Gaumer. He graduated from Pennsylvania State University in 1948 with a degree in chemical engineering. He served his country in the U.S. Army during World War II, working on the Manhattan Project. He also worked at White Sands Rocket Proving Grounds.

From 1948 until 1952, Lee worked as a chemical engineer at Argonne National Laboratory. In 1952 he joined Air Products and Chemicals, Inc., as a process engineer. Lee was a part of Air Products and Chemicals from its earliest days and contributed to the development of major industrial gas technologies instrumental in the company's growth. He retired from the company as technical director in 1992. His research was concerned with many low-temperature processes such as cryogenic air separation, hydrogen and helium extraction and purification, and natural gas liquefaction. The pioneering nature of his research career is evidenced by his 16 patents. His major career achievements were the liquefaction of hydrogen, the fuel of choice for the Apollo and Space Shuttle missions, and the liquefaction of natural gas, now applied worldwide.

In recognition of his work, Lee was the first winner of the Chairman's Award for Excellence in 1989, bestowed for his development of the technology for the liquefaction of natural gas and the design of heat exchangers used in the liquefaction process. Rising natural gas prices in the 1960s increased interest in liquefied natural gas (LNG) equipment. Lee applied his expertise to several technologies that overlapped and interacted. While working on aluminum heat exchangers for the Helium Conservation Program, he and Chuck Newton developed a multicomponent refrigeration system to separate helium from natural gas. To find the right gas mixture to apply the helium technology to the liquefaction of natural gas, Lee crunched data and undertook numerous and tedious mathematical calculations on the research and development department's new computer—a task he said would have been impractical without the computer. Lee continued to apply his sharp intellect and creative skills to other business and technical challenges, even finding (with George Harnett) a novel manufacturing technique for the huge LNG exchangers. The rest was LNG history. By the 1980s, Air Products was supplying equipment for the vast majority of the world's supply of LNG.

Lee was the recipient of the 1990 Coors American Ingenuity Award, which honors great American inventors. He was presented the Apollo Achievement Award in 1970 by the National Aeronautics and Space Administration for his contributions to the U.S. space program—creating technology for the high-volume production of liquid hydrogen rocket propellant. He was elected a member of the National Academy of Engineering in 1992.

Pennsylvania State University recognized Jim as an Outstanding Engineering Alumnus. He was involved with the university's Department of Chemical Engineering as a guest lecturer and provided resource materials. He also served on the Chemical Engineering Industrial and Professional Advisory Council.

Jim enjoyed golf, shooting pool, and reading. He is survived by his sons Thomas L. Gaumer (and wife Janet of Whitehall, Pennsylvania), Daniel W. Gaumer (and wife Kathy of Topton, Pennsylvania), and Randon S. Gaumer (and wife Kristin of Allentown, Pennsylvania), as well as six grandchildren—Victoria L., Jacob, Sloane, Elle M., Daniel, and Diana. His wife, Madalyn Claire (Daugherty) Gaumer, predeceased him.