

William McMurray, 1929 - 2006



Bill McMurray, an Icon in Power Electronics, passed away on December 25, 2006 after a long illness. One of the "founding-fathers" of power electronics, he was world renowned for his invention of the "McMurray Inverter" as well as the "McMurray-Bedford Inverter" and other snubber and commutation circuits. The power electronics community has indeed lost one of the greatest power electronics men of all time. He received the B.Sc.(Eng) degree in 1950 in engineering from Battersea Polytechnic (since renamed The University of Surrey) in London, England and a M.S. degree in 1956 from Union College in Schenectady, NY.

Bill joined the General Electric Company in their Test Engineering Program in 1950 and had assignments in the Power Transformer Department (Pittsfield, MA) and the Aircraft Gas Turbine Department (Lockland, OH). He then was in the Army (U.S. Army Signal Corps) from April 1951 to March 1953 after which he joined GE's General Engineering Lab (a predecessor of today's GE Global Research). He worked there until retirement in 1988. After his GE retirement, he was a consulting engineer in power electronics and magnetics. At GE, Bill was responsible for the conception and development of solidstate power conversion circuits just as the Silicon-Controlled Rectifier (now called a Thyristor) was invented and being developed. He first applied this new device in the "McMurray-Bedford"

inverter which became an industry standard for many years. A short time later, he invented the "McMurray Inverter" circuit that allowed more sophisticated Pulse-Width Modulated inverters to be built for many applications including ac motor drives. When the Gate-Turnoff Thyristor (GTO) began to supplant the Thyristor, Bill invented an efficient energy recovery snubber circuit and greatly simplified symmetrical snubbers which became named after him. Most recently, when "softswitching" techniques became popular, he published a paper on "Resonant Snubbers with Auxiliary Switches" in 1989 that, through control improvements, is known today as the ARCP inverter.

He holds 23 patents and published 35 technical papers. He was a contributor to the book "Principles of Inverter Circuits" and was the author of the book "The Theory and Design of Cycloconverters." Bill was a member of the Industry Applications, Power Electronics, Industrial Electronics, and Magnetics Societies. He was an associate member of the Institution of Electrical Engineers (British) and a Professional Engineer in NY State. He was a fellow of the IEEE. Among his awards and honors are the 1978 William E. Newell Award for outstanding achievement in power electronics (considered the highest award in power electronics), the 1984 IEEE Lamme Medal and the Third Millennium Medal that was presented in 2000. He also received the honorary Doctor of Laws degree from Concordia University, Montreal, Canada in 1986. Bill's publications were written in a crystal clear style and were always filled with analyses and waveforms to explain circuit operation in detail. These papers were studied by industrial project teams and students alike. At GE, he always had the last word when it came to the best circuit configuration for a given application. GE engineers would travel to Schenectady from Erie, Pennsylvania, Salem, Virginia, and many other cities just to sit down with Bill to get his opinion and advice on a proposed approach. A request of every visitor or interviewee that came to GE R&D was to meet Bill McMurray. When news of Bill's passing became known, e-mails began to pour in from around the world with such comments as:

- ".....I remember this scene well, and I realized that he is really one of the greatest research scientist/engineers in the power electronics community.."
- ".....I read the bible of power electronics, "The Principles of Inverter Circuits" with consulting a dictionary. When I was a graduate studentI read this book "The Theory and Design of Cycloconverters" carefully. Actually, these two books have had a significant impact on my following career."
- "He was the king of commutation."
- "In the very beginning of my engineering career I always followed McMurry's ideas as soon as they were published."
- "Dr. Bill McMurray's death comes as the saddest news to the power electronics community. He was not only the Father of Power electronics, in my definition, he was the greatest power electronics man of all ages. It is a serious loss to the power electronics community of the whole world."

With all his fame, Bill was always a humble and soft spoken colleague. In addition to his professional exploits, he enjoyed hiking and canoeing in the Adirondack Mountains north of Schenectady. He was also an avid amateur Egyptologist. Bill was born in Los Angeles, CA to William A. and Genevieve Arnold McMurray just at the beginning of the great depression in 1929 and shortly after moved to England. He held dual citizenship (U.S. and British). After his undergraduate education he returned to the United States and joined GE. He is survived by his wife, Marion Schnipp McMurray of Johnstown; son, William B. McMurray of Columbus, OH; daughter, Shirley A. McMurray of Niskayuna; son, Robert C. McMurray of Co-hoes; and daughter, Barbara C. Rathburn and her husband, David of Hartford, NY.

Memorial contributions may be made to the American Lung Association, 3 Winners Circle, Suite 300, Albany, NY 12205.

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