

Surge Protection Hall of Fame



Eugene C Sakshaug

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High Voltage MOV Technology and Arrester
Designer

“The influence of Gene Sakshaug in the early days of high voltage MOV arresters was not subtle” said co-worker James Kresge. Gene and James were both long term GE employees in the arrester division. Gene was the key person during the introduction of the new MOV technology. At the IEEE SPD standards meetings, he will long be remembered for his impromptu and well received lessons on how to design and test arresters. His now famous “bathtub curve” that described the energy handling capability of MOV stands true to this day. Gene was the last of his kind at GE as a “King of arrester design in the US.” He closed the, often dominating, GE arrester design era that started some 100 years earlier by Edison and Steinmetz.

Gene’s words of wisdom for new engineers are very simple. “Work like hell, it’s a tough world.”

Eugene C. Sakshaug was born on October 18, 1923 in Mandan, North Dakota. He attended a one-room elementary school, and a three-room high school.

He attended North Dakota State University for one year before World War II. Married Winifred in 1945. Enlisted in the U.S. Marine Corps and served for seven years then resigned to enter North Carolina State University. He received his BEE degree in 1952, and was elected to Tau Beta Pi, Eta Kappa Nu, Phi Kappa Phi and Sigma Zi.



Sakshaug was hired by The General Electric Company in 1952. He was involved in the design and application of power surge protection devices during most of 32 years work at G.E. He directed and contributed to the development of current limiting gap arresters in the early 1960’s and later to improvements and modifications to arresters for 500 kV and 800 kV systems. In the late 1960’s he and his colleagues developed arresters for the first high voltage DC system constructed in the United States. Mr. Sakshaug was author and co-author of several IEEE papers relating to the design, testing, and application of these arresters. Two of these papers received the Power Engineering Society Surge Protection Devices Committee Prize Paper Award in 1979 and 1982.

In the 1970’s, Mr. Sakshaug directed and contributed to the development of zinc oxide semiconductor materials used in surge arresters. An IEEE paper providing fundamental data on zinc oxide valve elements and their applications, co-authored by Mr. Sakshaug, received the 1978 WRG Baker prize awarded by the Power Engineering Society.

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Mr. Sakshaug has been granted 20 US patents. He is a Fellow of IEEE, and a member of the National Academy of Engineering. In 1983 he received the Surge Protective Devices Committee Award, "In recognition of distinguished service." He was for many years a registered Professional Engineer in the state at New York and the Commonwealth of Massachusetts.

After retirement from GE in 1984, Gene continued his involvement in arresters as an independent consultant up into the 90's . He lives with his wife Winifred in Massachusetts and is fully retired. They have four adult children Jane, Becky, Tom and Ted. They have eight grandchildren.