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ALEXANDER CRAWFORD MONTEITH

1902-1979

BY EDWIN L. HARDER

ALEXANDER C. MONTEITH, retired Senior Vice-President of the Westinghouse Electric Corporation, and for more than forty years an outstanding leader in the development of electric power systems, died at his home in Orleans, Massachusetts, on September 17, 1979. "Monty" had been retired since 1967, following a brilliant career of outstanding achievements in engineering, technical education, and corporate management.

Everyone who knew him will agree that Alexander C. Monteith was a superb and gifted leader of men. The engineering profession particularly can be proud of his achievements and thankful for his example. His father, of Scotch-English heritage, was a lumber "boss" in the woods of Canada, and Monty Monteith came naturally by the sterling qualities of personal leadership. He accepted the responsibility. He had both the self-confidence and the unusual technical talents to provide much-needed leadership in the early development of electric power systems. He inspired confidence in others by his strong personality, his infectious enthusiasm, and his wise and steady course.

Mr. Monteith's judgment and advice were eagerly sought after and followed in an ever-increasing sector of the industry and of society with which he came in contact. He progressed from Central Station Engineer to Senior Vice-President of Westinghouse, to President of his primary professional society, now the Institute of Electrical and Electronics Engineers (IEEE), and to President of the National Electrical Manufacturers Association.

Gifted with an excellent memory, Monty Monteith never had to make decisions twice. The people that worked for him, or with him, could be sure that his direction and policies would be the same at the next encounter. This made him an ideal superior and a trusted co-worker. The engineers working under him were well aware of his keen interest in their progress. One of the younger engineers, upon receiving a professional award, wrote regarding his own success, "It requires superiors who have the understanding to support efforts into untried fields, and who can find ways to provide encouragement along the way. It requires leaders who encourage the professional advancement of their engineers, help with their education, and lead the way in their professional activities." He was referring specifically to A. C. Monteith.

Born in Brucefield, Ontario, Canada, on April 10, 1902, Mr. Monteith received his formal education in electrical engineering at Queens University, Kingston, Ontario, where his natural engineering talents won him the Governor General's Medal for highest grades. He was also elected to both engineering and electrical honor societies, Tau Beta Pi and Eta Kappa Nu.

Queens University was later to bestow on him a Doctor of Laws degree, one of many recognitions of his outstanding contributions to engineering and to society. In the course of his career he received the Westinghouse Order of Merit; the Washington Award, given by six engineering societies combined, for major engineering accomplishments contributing to the well-being of society; the Edison Medal, top career award in electrical engineering; the American Society for Testing and Materials Award to Executives; he was an Honorary Member of the American Society of Mechanical Engineers (ASME) and a Fellow of the IEEE; and he received honorary degrees from Drexel Institute of Technology, Lafayette College, and Carnegie-Mellon University. He was elected to the National Academy of Engineering in 1965, the year after its founding.

After joining the Westinghouse Central Station Engineering group in 1924, Mr. Monteith became an expert in power station auxiliaries and in power transmission and distribution, an activity that culminated in the preparation of the *Transmission and Distribution Reference Book* in 1942 by fourteen authors under his direction and

coauthorship . Periodically revised since that time, the book is still, in 1980, the most authoritative reference book covering the entire electrical system. It is widely used by college students and practicing engineers throughout the world.

The "direct stroke theory" of lightning protection of transmission lines, originally set forth by C. L. Fortescue, a famous Westinghouse engineer, was brought to practical use by Mr. Monteith. His paper, "Lightning Protection of Transmission Lines," later became the "Transmission Line Design" chapter of the *Transmission and Distribution Reference Book* and evolved into the accepted industry method for designing transmission lines to withstand lightning.

Under Mr. Monteith's direction, Westinghouse was the principal manufacturing participant in the "Tidd" field experimental study, with American Gas and Electric and others, that provided the fundamental basis for 345-kilovolt transmission. Following this, the Apple Grove Project, with the same major participants, including Mr. Monteith's active participation, provided the fundamental basis for 500-kilovolt and 765-kilovolt transmission.

After World War II, when thoughts were turning to use of the atom for power production, A. C. Monteith was a key adviser in the Westinghouse entry into this field, first with the nuclear-powered submarine development and later with the development of atomic power stations for electric utilities. From these beginnings came the power plant for the *Nautilus*, the world's first atomic-powered submarine; Shippingport, the first U.S. electric utility atomic power plant; Yankee, the first economically viable power station using the pressurized-water reactor; and all their progeny.

As Vice-President of Engineering and Research in 1948, Mr. Monteith was instrumental in forming the initial Westinghouse organization for nuclear development. Later, as Vice-President of the Electric Utility and Marine Divisions, he actively directed the Westinghouse development and manufacture of nuclear power systems for electric utilities.

Always strongly interested in the education of young engineers, Mr. Monteith became Director of Education for Westinghouse in 1945, in addition to managing the Headquarters Engineering Department of the company. His contributions were immediate and

effective. The Education Center for graduate students was planned and built under his direction. He also headed the Westinghouse Educational Foundation, which sponsors a broad range of scholarships, fellowships, professorships, and many other education programs, including the Westinghouse Science Talent Search. Arrangements for graduate study were made for all employees at nearby universities.

Later he spearheaded the industrywide report, *The First Five Years of Professional Development*, a program for the professional development of all young engineers, which has been widely used. His later articles on the human relations of management, industry, and engineers again stressed the need for maximum development of potential in young professional people, an endeavor that marked his whole career with outstanding success.

Mr. Monteith's remarkable leadership qualities were recognized both inside and outside the Westinghouse Company. He became, in turn, Manager of Central Station Engineering; Manager of Industry Engineering, the application engineering for all industries; and then Manager of Headquarters Engineering. This included all of the centralized engineering operations of the company, dealing with the full range of products and services, both domestically and with foreign licensees. This was the start of an extensive acquaintance with prominent engineers and executives in electrical utilities and electrical manufacturing throughout the world, a rapport that grew with his later business and professional society activities. He was held in the highest esteem in these associations.

In 1948 he was elected Vice-President of Engineering and Research of Westinghouse and made very substantial contributions in these areas of vital importance. Research was strengthened and the present Westinghouse Research and Development Center was planned and the central core of it built during this period.

In 1955 he was made Vice-President and General Manager of the Apparatus Division, including the heavy apparatuses for electrical utilities and industries as well as aviation gas turbines. In this capacity he directed a large part of the Westinghouse operations. With a reorganization of the company he became Manager of the Electric

Utility and Marine Group from 1962 until 1963, then Senior Vice-President until his retirement in 1967.

Mr. Monteith was usually found in the leading role in the many professional society activities in which he was engaged. In the IEEE he was Chairman of the Pittsburgh Section and of several of the national committees, and in 1954-1955 he was President of the institute. In the mechanical society, ASME, his contributions were recognized by the highest award, Honorary Member. He headed standards committees and was a leader in the Engineers' Council for Professional Development. He was an active member of the Engineers' Joint Council and of CIGRE, the international professional organization dealing with large electrical systems.

Throughout his busy career, Monty Monteith was ably supported by his charming and gracious wife, Evelyn. His two sons and his daughter, of whom he was justifiably proud, inherited his spirit of self-reliance and goodwill. One of his sons confided, "He was really something." After Evelyn's death, **Mr.** Monteith was happily married to Paula, who shared his busy retirement activities.

Monty Monteith shares, in large measure, credit for the splendid electrical systems of today, the wonderful heritage of professional cooperation, and the excellent development opportunities for young engineers. His career was one of the finest examples of service to one's profession and to society. But despite all of the justly deserved honors that came his way, he was never adversely affected by them. To spend any time with him was an exhilarating experience. He never lost his ability to enjoy life to the fullest, and he was infectious in this characteristic. As Shakespeare wrote in *Hamlet*, "He was a man, take him for all in *all*, I shall not look upon his like again."