



Ernest Bunnis

STANLEY W. BURRISS

1910-1979

BY ELMER P. WHEATON

STANLEY W. BURRISS, retired President of the Lockheed Missiles and Space Company, died on March 22, 1979. He joined Lockheed in 1954 and swiftly rose to become one of the key leaders in the development of the revolutionary Fleet Ballistic Missile weapons system. He not only assumed the task of directing this unprecedented scientific, engineering, and management undertaking, he also contributed a number of significant technical ideas and methods that helped assure the project's success.

Stan Burriss was born on July 15, 1910, in New York City. He received a B.S. degree in electrical engineering from the Newark College of Engineering and pursued further studies in mathematics, management, radar and electronics, nuclear physics, and global strategy at City College of New York, Bowdoin College, Massachusetts Institute of Technology, the Los Alamos Laboratory, and the Naval War College.

His engineering and management accomplishments earned him many honors. He was a Fellow of the American Institute of Aeronautics and Astronautics and of the Royal Aeronautical Society of Great Britain. He was elected a member of the National Academy of Engineering in 1968. He was a member of the Association of the U.S. Army, the Air Force Association, the Navy League, the U.S. Naval Institute, the American Ordnance Association, and the Armed Forces Management Association.

Mr. Burriss received the National Management Association's Sil-

ver Knight of Management Award; the Edward F. Weston Distinguished Alumni Award and the honorary Doctor of Engineering degree from Newark College of Engineering; the Certificate of Appreciation from the Secretary of the Army; and the Navy's highest civilian honor, the U.S. Navy Meritorious Public Service Award.

Stan Burriss had a crowded lifetime of technical and management accomplishments, but the most significant was his contribution to the creation of the Fleet Ballistic Missile, the several generations of Polaris, Poseidon, and now Trident. These missiles are unique among existing devices; they are required to operate in three media: water, the sensible atmosphere, and near space. They were begun in a period of perceived national peril when the task of developing the revolutionary new system had to be accomplished in an unprecedented time span. In addition to directing this massive effort, he made personal contributions that led to completing the project more than five years ahead of schedule.

A major example was his decision to reduce R&D test instrumentation by 40 percent after the scientists and engineers of both Lockheed and the Navy had attained the irreducible minimum thought possible at that time. This decision resulted in the delivery of operational Polaris missiles in half the time that traditional methods would have required.

In addition, he contributed in many technical areas such as the development of beryllium applications and thrust control methods-jetavators, jet tabs, asymmetric nozzle rotation-all of which were innovations in practical aeronautics at the time of their application to Polaris development vehicles. Of particular significance, the reentry problems that were solved provided invaluable data for future manned spaceflight and reentry.

Over a period of eight years, Mr. Burriss introduced and persuaded Navy, submarine, and missile people on technical compromises without which schedule commitments would not have been met. His judicious management of technical and operational team resources was a prime factor in the successful development of the Polaris A-1, A-2, and A-3 missiles.

He made numerous other contributions to engineering science.

While with the Los Alamos Scientific Laboratory, he served as director on important programs for weapon improvements, including research in the basic physical sciences concerning shock phenomena. This work resulted, in particular, in the design of experiments and instrumentation that led to reductions in the size and weight of fission weapons. As Test Director at Eniwetok Proving Grounds, he was in command of the scientific Task Group 132.1 for Operation Ivy, the first thermonuclear bomb test. He also served as Chief of Staff and Test Director for Operation Greenhouse. During this operation, he directed the development of a fast response interferometer device for measuring pressure versus time in the blast wave.

Stan Burriss made still other contributions during his Navy service as Tactical Evaluation Officer in the fields of radar, electronics, and communications. During Operation Crossroads at Bikini, he was assigned to Staff Commander Joint Task Force 1, in charge of instrumentation timing operations.

He had a wide range of interests outside his technical fields. He was a lifelong student of management and of people's roles and needs in the industrial process. He was quietly and deeply religious, and particularly interested in the application of Christian principles in the business setting.

He was an avid student of the oceans, their history, their ecosystems, and their mechanics. He enjoyed philosophy, and especially the transitional area where it approaches mathematics and the development of the sciences. He studied and enjoyed a wide range of music and worked with and for a number of community programs, especially the Boy Scouts of America.

When one reads the many comments of friends and associates who worked with him, two threads run through them. First, Stan Burriss was a gentleman, a friend, and a sincere man who pursued his work with thoroughness and strong conviction. Second, the world enjoys peace today because men like Stan Burriss lived and worked to deter war. Rear Admiral Robert Wertheim said, "None of our industrial teammates contributed more to the success of the Polaris program than Stan Burriss. The continuing deterrence to nuclear war provided by the Fleet Ballistic Missile System today is a

living memorial to this dedicated American, businessman, and scientist."

Admiral Levering Smith said, "We mourn the loss of a teammate who was a pioneer in every field he entered We honor the memory of a leader who played a major role in preventing nuclear war in his time and, we trust, for the future."

