Sheila E. Widnall

August 6, 1993–October 31, 1997

Portrait by Everett Raymond Kinstler

SHEILA E. WIDNALL was born in Tacoma, Washington, on July 13, 1938. She grew up near McChord Air Force Base and had a long-standing interest in aircraft and aerodynamics. While in college, she worked summers at the Boeing plant in Seattle. Her father, Rolland Evans, who died in 1991, was a rodeo rider who arrived in Tacoma almost literally with a saddle on his back. There he put himself through school and eventually became a professor and later administrator at Tacoma Community College. Her mother was a juvenile parole officer. Widnall's interest in flight was matched by an interest in science and math, and she won the Washington State Science Contest with a project on the atomic deterioration of uranium. A Massachusetts Institute of Technology (MIT) alumnus from Tacoma suggested Widnall attend that well-respected Cambridge school, and so she received a bachelor of science degree in 1960 and a master of science degree in 1961 at MIT. After earning her doctorate in science there in 1964, she joined the MIT faculty as an assistant professor of aerospace and astronautics. She became an associate professor in 1970 and a full professor in 1974. While at MIT she met Bill Widnall, a New Jersey native. They married in 1960 and have two children.

Widnall headed the MIT engineering department's division of fluid mechanics from 1975 to 1979 and the Fluid Dynamics Research Laboratory from 1979 to 1990. From 1972 to 1975 she served as a member of the advisory committee for the Aeronautical Systems Division at Wright-Patterson Air Force Base, Ohio. She has been a member of the Space and Aeronautical Board; the National Research Council; and the Air Force Academy's Board of Visitors, where she served as chair from 1980 to 1982. In addition, Widnall served as president of the American Association for the Advancement of Science in 1978 and was a consultant for the MacArthur Foundation from 1988 to 1992.

Before she became Secretary of the Air Force, Widnall was named associate provost of MIT and was charged with responsibility in academic integrity, federal relations, faculty retirement, promotion and tenure policies, and international education programs. She received the American Institute of Aeronautics and Astronautics' Lawrence Sperry Award in 1972; the Society of Women Engineers' Outstanding Achievement Award in 1975; and the Boston Museum of Science's Washburn Award in 1984.

During her career, she became known internationally for her work in fluid dynamics, specializing in aircraft turbulence. Widnall won the respect of her colleagues, and Air Force leaders who worked with her considered her a natural choice for secretary of the Air Force.

In nominating her as the first female service secretary—although President George Bush's secretary of transportation, Elizabeth Dole, indirectly supervised the Coast Guard—in 1993, President Bill Clinton described Widnall as "a woman of high achievement—a respected scientist, a skilled administrator and a dedicated citizen." He was confident that she would perform in an outstanding manner, guiding the Air Force through a period of post–Cold War change.

As Air Force secretary, Widnall oversaw Air Force modernization at a time when the services were enduring sharply reduced budgets. She successfully pushed the C–17 airlifter program and saw the initial flight of the F–22. Her aeronautical expertise enhanced her understanding of Air Force programs and enabled her to ask the right questions about them and to explain them on Capitol Hill. When she became air secretary, Widnall went from looking at aircraft as machines to considering the people who fly them. She found no contradiction between her academic values and those of the Air Force, because the core values of the Air Force—integrity, service above self, and excellence—were as applicable to academia as they were to the military.

Widnall focused not only on surviving the drawdown; she also concentrated on the future of the Air Force—its capabilities, efficiencies, and potential for innovations. The F–22 was recognized for its stealth and maneuverability characteristics and acknowledged as the vanguard weapon for future air dominance. As secretary, Widnall streamlined the acquisition processes and explored privatization alternatives for virtually every function, from computers to base services to depot maintenance. Because of downsizing, the Air Force had trouble retaining pilots. In the midst of downsizing, she stressed a quality of life program whereby Air Force people enduring the stresses of new missions and high operations tempos would be assured that their families' needs were cared for in their absence. She stood for the Air Force as an institution during a very difficult time when it was assailed in the press for its position regarding gender issues of the 1990s.

As she had intended when she accepted her appointment, the first woman secretary saw the Air Force through its fiftieth anniversary celebration and activities. Widnall resigned her office to return to MIT in November 1997.