Chapter I
Introduction

Technological change has accelerated tremendously in recent decades. Today's new breakthroughs are disseminated almost immediately to the lay public via television and soon become tomorrow's routine occurrences. No technological developments of this accelerated age have captured more attention than those in space and those relating to nuclear energy. The technology which provided nuclear power for space missions cuts across these two broad fields of technical and scientific development.

In spite of their many spectacular triumphs, both the space age and the nuclear age have very recent beginnings. They date from the period following World War II when America assumed worldwide responsibilities. Throughout the 1950s, the two technological revolutions gained momentum, and in the decades which followed they brought amazing technological feats to the senses of many people throughout the world. They also influenced, and were influenced by, other events in the world.

The first man-made satellites, launched in 1957 by the Russians, led to a searching reassessment of American science and education. Eventually they triggered the race to the Moon of the 1960s and astronaut Neil Armstrong's "giant leap for mankind." Subsequently, unmanned Mars landings, missions to fly by Saturn and Jupiter, and other space probes punctured old beliefs and led to revised theories among space science specialists, while providing a view of the universe never seen by previous generations.

Dramatic developments in nuclear energy also unfolded during those years, although their appearance frequently was accompanied by public concern after the earlier cheers had subsided. From the beginnings at Stagg Field and Alamogordo, awe was mixed with foreboding, and efforts to generate peaceful uses of nuclear energy have been burdened by fears of the uncontrollable. Growing concerns about ever more destructive bombs and fears of fallout contamination led to concerted efforts to control testing and find peaceful uses for nuclear energy. As a consequence, the Atomic Energy Commission (AEC), successor to the greatest weapon development project of all time, began to