

January 29, 2001
NSS Policy Committee

RETURN TO THE MOON: WHY & HOW

A return to the Moon should be a high space program priority, to begin development of knowledge and industries unique to the Moon. The Moon is a repository of the history and possible future of our planet, and the six Apollo landings only scratched the surface of that treasure.

The Moon's far side, permanently shielded from the noisy Earth, is an ideal site for future radio astronomy. Unique products may be producible in the nearly limitless extreme vacuum of the lunar surface, and the Moon's remoteness is the ultimate isolation for biologically hazardous experiments. Lunar resources include most if not all raw materials available on Earth, and electromagnetic catapult technology will make it possible to send lunar products to Earth without rocket transport. The Moon can serve as a proving ground for a wide range of space operations and processes, including developments toward "living off the land" (self-sufficiency) for human outposts.

Initial return missions can be done through space operations using the infrastructure and assets developed by the shuttle and ISS programs, plus existing expendable launch vehicles, with a minimum of new R&D programs. It would show that the routine operations way of doing business established by ISS construction and operations can be extended to human missions to the Moon, Mars and elsewhere. Initial missions could place scientific equipment on the Moon and return samples from areas never explored, such as the polar regions.

Extent of water and other volatiles important to lunar industrialization could be determined. As future reusable launch systems begin operations, reducing cost and enabling higher flight rates, Earth-Moon traffic can become routine.

With humans on the Moon again, NASA's space activities would take on new vigor and public interest.