Boeing To Build Space-borne Power Generator

Boeing [NYSE:BA] has been named by the Department of Energy (DOE) to lead in the creation of a next-generation power system for future Mars surface missions and the exploration of deep space.

Boeing Rocketdyne Propulsion and Power in Canoga Park, Calif., is teamed with Teledyne Energy Systems, Inc. to develop, qualify, and deliver electrical power generation systems for interplanetary missions and probes. The new compact power system, a multi-mission radioisotope thermoelectric generator (MMRTG), will provide unique in-space and planetary surface power capability.

The announcement follows the successful launch of the Boeing Delta II, powered by the Rocketdyne RS-27A engine, which sent Mars Exploration Rovers A, otherwise known as "Spirit", on its way to the red planet.

Missions already targeted to use the new power system are the Mars Science Laboratory, a mobile laboratory rover that will be sent to the Red Planet in 2009; an Outer Planets Probe set for launch in 2011; and the Mars Sample Return mission, planned for launch in 2013.

The MMRTG will supply electric power for mobility, data acquisition, and communication. It will have a 14-year design life, including three years on the surface of Mars.

A flight version would be capable of generating power levels of about 110 watts by using a radioisotope heat source to drive thermoelectric power converters to create electric power.

An MMRTG-powered rover will be able to land and go anywhere on the surface of Mars, from the polar caps to deep, dark canyons, and will safely provide full power during night and day under all types of environmental conditions.

"This next-generation MMRTG technology will be based on a proven heritage design that has been demonstrated by earlier efforts on the surface of Mars and in deep space," said Rich Rovang, program manager for the MMRTG team. "All of the Viking and Pioneer spacecrafts used Teledyne RTG design technologies," he said. "The RTG on Pioneer 10 operated over 30 years and over seven billion miles from Earth."

Boeing Rocketdyne's Power Systems group will lead the project and perform systems integration for a prototype system that would employ a non-nuclear heat source for local testing and systems demonstrations. For its part, Teledyne Energy Systems will supply a new series of thermoelectric generators and related technologies. Fueling and final testing of the qualification and flight units will be performed by the DOE.

Boeing Rocketdyne is also working several related technology contracts that will eventually lead to even higher power and more efficient systems to enable future deep space propulsion systems. Implementation of these advanced propulsion systems could dramatically shorten the times required to visit planets and their moons and enable future missions to explore multiple destinations in a single voyage. These technologies are part of NASA's Project Prometheus, which seeks to create new, more capable power and propulsion systems.

A unit of The Boeing Company, Integrated Defense Systems is one of the world's largest space and defense businesses. Headquartered in St. Louis, Boeing Integrated Defense Systems is a $25 billion business. It provides systems solutions to its global military, government and commercial customers. It is a leading provider of intelligence, surveillance and reconnaissance; the world's largest military aircraft manufacturer; the world's largest satellite manufacturer and leading provider of space-based communications; the primary systems integrator for U.S. missile defense; NASA's largest contractor; and a global leader of launch services.

###

For further information:
John Mitchell
Boeing Rocketdyne
(818) 586-4564
john.k.mitchell@boeing.com
Madonna Walsh
Boeing IDS News Bureau
(314) 234-1362
madonna.a.walsh@boeing.com