Boeing Delivers JIMO Spacecraft Design Proposal

Boeing [NYSE: BA] delivered its conceptual design proposal Friday, July 16, for the Jupiter Icy Moons Orbiter (JIMO), a spacecraft that could become the nation's first nuclear-fission-powered exploration vehicle with technologies applicable to future Mars and lunar missions.

The JIMO reactor would provide more than 100 times more usable onboard power than has been available to previous science probes and demonstrate nuclear reactors can be operated safely and reliably in space to provide electrical power needed for propulsion and scientific exploration.

"Through Project Prometheus, NASA is developing space nuclear power and electric propulsion technologies that have the potential to revolutionize space exploration. As envisioned, JIMO would change how humans explore the solar system," said Mike Mott, Boeing NASA Systems vice president and general manager. "The Boeing team has the large-scale systems integration capability and experience to make it a success."

Boeing submitted the proposal in conjunction with its ongoing $11.8 million Phase A study contract with Jet Propulsion Laboratory (JPL), one of three awarded last year to study options for the reactor, power conversion, electric propulsion and other JIMO subsystems. The orbiter's proposed mission is to explore Jupiter's three ice-covered Galilean moons Ganymede, Callisto and Europa and would launch no earlier than 2015, as outlined in the national Vision for Space Exploration.

Boeing's analysis of the proposed mission would have the JIMO spacecraft embark on a direct five- to eight-year interplanetary journey to reach the icy moons avoiding the time intensive gravity assists often used to sling chemically propelled space probes toward their final destinations. Once at Jupiter, the available power and propulsion systems would give JIMO the capability to explore each icy moon extensively for 30 days or more, providing unprecedented science data about the frozen worlds. The spacecraft would extensively explore the moons' composition, history and potential for sustaining life. The venture supports the Vision for Space Exploration and NASA's main goal to explore the universe and search for life.

"Boeing believes that the prudent use of nuclear power is one key to safely and reliably conducting the exploration initiatives NASA is undertaking for America's future," said Joe Mills, Boeing vice president leading the company's JIMO efforts. "The Boeing team has a long heritage of successful nuclear power programs and brings technical and management expertise to support the government in this critical area."

The Boeing JIMO program is being led by Phantom Works in partnership with Boeing NASA Systems along with support from Electron Dynamic Devices Inc., for electric propulsion research; Boeing Satellite Systems for spacecraft engineering; and Rocketdyne Propulsion and Power for power conversion and management technologies.

Boeing's partners include BWX Technologies Inc., Ball Aerospace & Technologies Corp., and General Dynamics Electric Boat.

A JIMO spacecraft contractor is expected to be selected in the fall of 2004. Phase B would include the development of system requirements and a preliminary design of the spacecraft.Phase C/D would follow next for the full-scale design, fabrication, integration and test of the space system. Phase E would include launch and post-launch operations. NASA may then contract for up to three additional spacecraft for missions to other outer planet destinations.

Phantom Works is the advanced research and development unit and catalyst of innovation for Boeing. Through its Integrated Defense Advanced Systems group, it provides leading edge systems and technology solutions to Boeing Integrated Defense Systems (IDS), one the world's largest space and defense businesses.

Headquartered in St. Louis, Boeing IDS is a $27 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 a leading provider of space-based communications; the primary systems integrator for U.S. missile defense; NASA's largest contractor; and a global leader in launch services.

Note to editors: For more information about the Boeing JIMO initiative, visit the Nasa Systems web site.

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