Boeing vies for hovercraft job

Mesa plant teaming with Wisconsin firm to land Ship to Shore

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Consultant Louis Johnsick runs a Ship to Shore Connector simulator as Boeing's Larry Nakamura assists.

With a 70-ton Army tank and a platoon of Marines aboard, it emerges from the belly of an assault ship and flies on a cushion of air just feet above the water and land.

The Ship to Shore Connector is the rugged, high-speed vessel that the Navy is proposing as its next-generation hovercraft to transport troops and weapons or relief-mission personnel and supplies from ships to landing zones.

And much of its research and development stems from the brainstorming and enterprise of aerospace engineers at Boeing's Mesa plant, an experimental undertaking not often associated with the aerospace giant's Southeast Valley operations.

Boeing has teamed with Wisconsin-based shipbuilder Marinette Marine Corp. to bid for the project next month.

In designing the vessel to meet Navy requirements, Boeing engineers adapted the company's advanced rotorcraft technologies, including those developed for the AH-64 Apache, which is widely considered the world's premier attack helicopter.

"This is truly the next generation landing craft, drawing parallels of the rotorcraft industry and third generation of Apaches that came out at the same time as Ship to Shore," said Greg Peterson, Boeing's Ship to Shore project manager.

Boeing and Marinette will compete for the landing-craft contract with big players in the defense industry, including Textron Marine & Land Systems of Wilmington, Mass., which builds the Navy's current generation of Landing Craft Air Cushion vessels.

The competitive edge will go to the hovercraft with the most efficiencies and lowest operational costs that can still meet Navy standards for speed, safety, heavy lifting and durability, Peterson said.

"Since original design of LCAC, the payload requirements have gone up significantly," he said. "What's faster, cheaper and can haul more ... is always what's happening on any Department of Defense program these days," Peterson said. "The Ship to Shore will be able to deliver all of that."

The hovercraft can also be operated by a pilot and co-pilot as opposed to a three-member crew required for existing craft, he said.

The Navy proposal comes amid recommendations by bipartisan leaders of President Barack Obama's deficit commission to reduce federal spending on a variety of fronts, including defense.

Keeping the Ship to Shore Connector's research and development costs down will lower the proposed hovercraft's final price tag.

Boeing engineers are using another technology to deal with that challenge.

The Boeing team developed a Command Station Integrated Trainer, a portable work station that casts a simulation of the hovercraft on a large screen, shows customers exactly what they will be getting in a variety of dimensions and allows them to operate it from ship to shore.

The command station will make it easier to train Navy personnel to operate the craft while lower the training costs and reducing attrition, said John Schwering, Boeing's manager of business development for training systems.

"It also decreased the number of students required in the actual pipeline and decreases the quantity of instructors," he said.

The "simulator" shows the inner workings of the almost 92-foot-long vessel from its gas turbine engines to its composite drive shafts; fire-suppression and thermal, anti-icing systems.

Boeing's expertise in system integration, which brings component subsystems together into one, well-functioning system, will help keep costs down, engineers said.

"The command station and virtual demonstration also informs and educates customers how the hovercraft provides the lowest cost and maintenance costs," Schwering said.