

Parachute Maker Rebounds on NASA Work

AEROSPACE: Irvin now at 160 workers, eyes 225

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Santa Ana parachute maker Irvin Aerospace Inc. has seen back-to-back space contract wins after a falloff in military business.

Earlier this month, the company said it won a contract to make parachutes for NASA's Orion Crew Exploration Vehicle, which is set to replace the space shuttle. The contract is worth \$21 million over five years.



Taylor inspecting Apollo 17 spacecraft at museum: "This one certainly is going to be a huge highlight of my career"

In August, Irvin won a contract to work with Rocketplane Kistler, part of Kirkland, Wash.-based Kistler Aerospace Corp., on a separate NASA program. That deal is valued at \$15 million to \$20 million over four years.

Irvin is making a parachute landing system for the Commercial Orbital Transportation Services project, which will deliver commercial cargo to the International Space Station. The wins come at a time when military demand for Irvin's parachutes has tapered off. During the invasions of Afghanistan in 2001 and Iraq in early 2003, the company saw orders soar for parachutes that helped airborne soldiers drift to earth. As the wars shifted to ground combat, orders dried up. Irvin cut jobs and shuttered programs.

On the Business Journal's list of aerospace and defense companies in July, Irvin saw the biggest slip, falling four places to No. 24. The company cut 19% of its local work force in the past year to about 160 people.

Irvin is hiring again and expects to be at 225 with the contract wins. Sales are rebounding. This year, Irvin projects to have \$25 million in revenue and \$35 million next year.

The Orion win was a boost. Irvin beat out Houston-based United Space Alliance LLC and South Windsor, Conn.-based Pioneer Aerospace Corp. for the contract.

"For little Irvin to do that is a big deal," said Tony Taylor, Irvin's director of space systems. "Our customers told us that our performance during the proposal is what sealed the deal. They could tell that we understood what we were doing better than anyone else."



Rendering of Orion parachute: first launches set for 2008

President Bush's 2004 announcement to change the focus of the nation's space program shook things up at the 85-year-old company.

"We were working on other spacecraft development programs that stopped because of the president's

redirection,” Taylor said. “We had to wait for the programs to sort themselves out again.” The decision to retire the space shuttle “is a macro trend that’s creating the business coming around now,” he said. Now pressure is on Irvin to meet NASA’s schedule. The first launches are set for 2008. A prototype parachute is due in a few weeks with testing set to begin as early as January in Arizona.

Local Irvin workers are joining a 60-person design team that includes engineers from NASA and Jacobs Sverdrup, part of Pasadena-based Jacobs Engineering Group Inc. Lockheed Martin Corp. is the primary contractor for Orion, which is set to carry up to six astronauts to the moon, Mars and the International Space Station in the next 15 years. Its conical shape is similar to the Apollo-era capsule. Irvin is set to build a system of parachutes and airbags to allow astronauts to land. Irvin is designing three main parachutes that are 116 feet in diameter as well as smaller “pilot” chutes that are about 10 feet in diameter, Taylor said. The company also is charged with making giant airbags for the ship, which will inflate to cushion the landing.

In the design stage, Irvin uses software to simulate stress tests on the fabric. The software models the parachutes before a single stitch is sewn. Plain old nylon is used for the broad areas of the parachute, Taylor said, though Irvin is looking at advanced lightweight versions of the fabric. The cords are made of Vectran or Kevlar, high-tech fabrics used to make bulletproof vests.

Irvin has leased another building in Santa Ana for the project. The 40,000-square-foot building houses parachute engineering and production. The parachutes are sewn on a workstation of about 30 square feet, affectionately called “the dance floor” by Irvin engineers. The company has hired 11 engineers and program managers in the past three months and plans to hire 11 more, Taylor said. Irvin also added about 30 local manufacturing jobs between the two contracts, he said. Finding workers hasn’t been easy. “The hiring process has been as would be expected because the market is a little bit tight right now,” Taylor said. Some engineers were recruited locally. Others have come from out of state. “We’ve spoke to the guys we know at our competitors, but none of them wanted to move,” Taylor said. Irvin’s competitors include FXC Corp.’s Guardian Parachute in Santa Ana.

Irvin, part of Airborne Systems Group in Pennsauken, N.J., is owned by British private equity firm Alchemy Partners. Alchemy shifted Irvin’s headquarters to Orange County from North Carolina in 2003. Taylor, who has worked his way up from a systems engineer at Irvin in the past 11 years, said he’s excited about heading the highly anticipated project. “This one certainly is going to be a huge highlight of my career,” he said.