Boeing Delivers Combustion Chamber for New Demonstrator Engine

The Rocketdyne Propulsion & Power business unit of Integrated Defense Systems of The Boeing Company [NYSE:BA] has delivered the main combustion chamber (MCC) for a high-tech rocket technology demonstrator engine, now being assembled at NASA's Stennis Space Center (SSC) in Mississippi. The new MCC completes the principal components needed to create the new engine, called the Integrated Powerhead Demonstrator (IPD), which will begin testing late this year.

The IPD effort, initiated in 1994 by the U.S. Air Force and NASA as part of the Integrated High Payoff Rocket Propulsion Technology Program, will demonstrate the highly efficient full-flow staged combustion engine cycle, as well as a variety of performance-improving and cost- and weight-reducing component technologies.

The MCC was fabricated employing a hot isostatic pressure joining technology to produce a low-cost, high-performing chamber to contain and extract energy from the 3,000-psi combustion gases.

Rocketdyne General Manager and Vice President Byron Wood said, "The IPD will be a real propulsion milestone. When the testing is concluded and the data reviewed, we should have a very clear idea of where we want to go in future propulsion systems."

The IPD is not seen as a flight engine, Wood noted, saying that the technologies developed with this engine could find application in systems that may soon be on NASA's drawing board, including those needed for Project Constellation, which has been suggested for the new vision for space exploration.

The Air Force's IPD Program Manager Jeff Thornburg praised the team's accomplishments, saying, "Last February I gave Rocketdyne an extremely difficult challenge and the team did an outstanding job delivering a main combustion chamber ahead of schedule that meets all of our engine needs."

Final assembly of the IPD is scheduled for mid-October of this year. In November, the engine will be installed in an SSC test stand, with testing operations beginning in December. A total of 26 tests are planned, including 16 start-and-shutdown tests, followed by 10 main-stage tests, which should be completed by September of 2005.

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 $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 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.

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