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AD ASTRA ROCKET COMPANY WINS MAJOR NASA ADVANCED PROPULSION CONTRACT

[Webster, Texas – for immediate release] – Ad Astra Rocket Company has been selected by NASA as one of the winners of the space agency’s Next Space Technologies for Exploration Partnerships (NextSTEP) competitive solicitation, which opened in November of 2014. The official announcement was made by NASA on March 30 at:

<http://www.nasa.gov/press/2015/march/nasa-announces-new-partnerships-with-us-industry-for-key-deep-space-capabilities/>

Ad Astra’s winning proposal for advancing the technology readiness of the VASIMR[®] engine was one of three selected in the field of advanced electric propulsion. Under this work, valued at approximately \$10 million over three years, the partnership will advance the VASIMR[®] engine to a technology readiness level (TRL) greater than 5 – a step closer to spaceflight – with a demonstration of the VX-200-SS[™] laboratory prototype, a fully integrated system capable of operating at high power continuously for a minimum of 100 hours.

Since its inception in 2005, Ad Astra Rocket Company has continued to advance the TRL of the VASIMR[®] engine almost exclusively with private funding. In 2013, after more than \$30 million in private capital, the company completed more than 10,000 successful high power firings of its most advanced VASIMR[®] prototype, the VX-200[™], in Ad Astra’s Houston vacuum chamber facility. These tests demonstrated the engine’s excellent firing repeatability and performance (6 N thrust, 5000 sec I_{sp} and a thruster efficiency greater than 70%) with no measurable signs of engine wear.

To optimize company resources, however, the above tests were all of short duration (less than 1 minute) sufficient to reliably establish the rocket’s performance and measure thermal loads. A long duration (up to 100 hr.) test is now needed to demonstrate the engine’s new proprietary core



design and thermal control subsystem and better estimate component lifetime. These technological advances will now be incorporated, under the present NASA contract, in a new fully integrated test article called the VX-200SS[™] (for steady state).

“We are thrilled by this announcement and proud to be joining forces with NASA in the final steps of the technology maturation,” said Dr. Franklin Chang Díaz, Ad Astra’s Chairman and CEO. “We look forward to a very successful partnership as we jointly advance the technology to flight readiness,” he added.

ABOUT THE TECHNOLOGY

Short for Variable Specific Impulse Magnetoplasma Rocket, VASIMR[®] works with plasma, an electrically charged gas that can be heated to extreme temperatures by radio waves and controlled and guided by strong magnetic fields. The magnetic field also insulates nearby structures so exhaust temperatures well beyond the melting point of materials can be achieved. In rocket propulsion, the higher the temperature of the exhaust gases, the higher their velocity and the higher the fuel efficiency. Plasma rockets feature exhaust velocities far above those achievable by their chemical cousins, so their fuel consumption is extremely low.

ABOUT AD ASTRA

A US Delaware corporation established in 2005, Ad Astra Rocket Company is the developer of the VASIMR[®] engine, an advanced plasma space propulsion system aimed at the emerging in-space transportation market. Ad Astra also owns and operates supporting research and development subsidiaries in the US and Costa Rica. Through its subsidiaries, the company also develops earthbound high technology applications in renewable energy, advanced manufacturing and applied physics. Ad Astra has its main laboratory and corporate headquarters at 141 W. Bay Area Boulevard in Webster, Texas, USA, about two miles from the NASA Johnson Space Center.