



**PRESS RELEASE 021814, February 20, 2014
AD ASTRA ROCKET COMPANY AND COSTA
RICA'S RECOPE SIGN NEW CONTRACT ON
HYDROGEN TECHNOLOGY DEVELOPMENT.**

[Liberia, Guanacaste, Costa Rica – for immediate release] – Ad Astra Rocket Company, through its wholly-owned subsidiary, Ad Astra Rocket Company, Costa Rica, SRL (Ad Astra, CR) and Costa Rica's state-owned Petroleum Refinery, RECOPE, have signed a US\$400,000 contract setting forth the next phase of their ongoing collaboration in hydrogen technology development. The agreement was signed by Litleton Bolton Jones, President of the Board of RECOPE and Franklin Chang Díaz, Ad Astra's Chairman and Chief Executive Officer. The partnership, which was formed in 2010, is exploring the operational viability of a hydrogen-based transportation infrastructure in Costa Rica, the primary goal of which is to reduce the nation's reliance on imported oil. Hydrogen is a clean, renewable fuel that can be produced from water by wind and/or solar energy.



Litleton Bolton Jones and Franklin Chang Díaz sign Phase C1 Agreement on collaborative Hydrogen Project

The new agreement represents Phase C1 of the partner's ongoing R&D program, a six-month work package scheduled to begin on February 24, 2014. The two main objectives of the agreement are: 1) to develop operational expertise using the new state-of-the-art

hydrogen facility unveiled in December of 2013 at Ad Astra's Costa Rica Laboratory near the City of Liberia, and 2) complete the conceptual design of an integrated hydrogen service station capable of supporting both, fuel cell and battery electric vehicles (FCEV and BEV). The work package also includes an evaluation of the economic and environmental value of hydrogen-based renewable energy systems, supported by actual operational experience. Completion of this contract is planned for August 8, 2014. Phases A and B were successfully completed in 2012 and 2013 respectively.

The Liberia hydrogen facility produces highly pure hydrogen through electrolysis of water. The gas is ultimately stored at a pressure of 700 atm. in five state-of-the-art tanks that are capable of holding up to one kg of hydrogen each in a volume not much larger than a conventional propane cooking cylinder. Each tank could provide enough fuel to achieve a 100 km range in a fuel cell vehicle. Other storage technologies are envisioned for later study, including cryogenic and advanced hydrogen "sponges" called metal hydrides.

The Ad Astra – RECOPE advanced hydrogen project is one element of a larger program in renewable energy, initiated by Ad Astra in 2009, which also includes: 1) an exploratory program with Costa Rica's Earth University and Cummins, Inc. in the use of hydrogen – methane mixtures to boost the efficiency of bio-digester gas as a renewable fuel; and 2) the indigenous design and manufacture of low-cost, medium-power wind turbines by Ad Astra and their integration in turn-key commercial applications in distributed power systems.

"Costa Rica should always look to the future without the size of our territory or our natural resources limiting us," said Lic. Litleton Bolton, RECOPE's President, praising the joint work accomplished so far and its strengthening with

this new contract “Our circumstances must not cause us to deviate from our vision of energy self-sufficiency and our goals of environmental sustainability and carbon neutrality,” he added. “This is an important next step in exploring the viability of a hydrogen-based ecosystem in Costa Rica and the region” said Dr. Franklin Chang Díaz, Ad Astra’s Chairman and Chief Executive Officer. “We are eager to start in this new phase of the project and proud to continue to build on the record of innovation and success already achieved by this partnership” he added.

ABOUT AD ASTRA

Established in 2005, Ad Astra Rocket Company is the developer of the Variable Specific Impulse Magnetoplasma Rocket (VASIMR[®]) engine, an advanced plasma space propulsion system aimed at the emerging in-space transportation market. Ad Astra also owns and operates Ad Astra Servicios Energéticos y Ambientales (AASEA) and Ad Astra Rocket Company, Costa Rica SRL., respectively supporting research and development subsidiaries in the US and Guanacaste, 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.

ABOUT RECOPE

Costa Rica's Oil Refinery (RECOPE) is a state-owned, autonomous institution, founded 50 years ago. Since its inception, it has focused its operations on the import, refining, processing and distribution of fuels to support Costa Rica’s demand. The company supplies about 70% of the commercial energy required to sustain the country’s social and economic development. In order to fulfill its mission, RECOPE has established the National Fuel System, composed of the oil loading dock at Puerto de Moín (Limón, Caribbean region) where the shipments of raw fuels are received, four distribution and sales plants, and a pipeline system for distributing the products. The company currently develops an integral plan for fuels and asphalts that includes novel alternative

sources, aiming to diversify the national energy matrix.

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