



## Clean Energy Systems

*"Power without Pollution"*

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### **FOR IMMEDIATE RELEASE**

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### **TESTING OF NEW TECHNOLOGY ADVANCES GENERATION OF POWER WITHOUT POLLUTION**

ALEXANDRIA, VA - Clean Energy Systems, Inc. (CES) announced today the successful testing of a superior gas generation system that enables generation of electric power without pollution. The system emits no nitrogen oxide, sulfur dioxide, particulate matter or any of the other harmful elements often associated with conventional power systems.

The gas generator technology is inspired by the technology used by the aerospace industry and results from more than eight years of effort by a team led by experienced aerospace scientists and engineers. Program funding is shared between the US Department of Energy and CES.

"The benefits of this system are numerous and immense," said Stephen Doyle, president of Clean Energy Systems. "This technology provides dramatic environmental benefits, competitively priced electricity, and a means of strengthening national energy security by enhancing oil and coal-bed methane recovery and providing fuel diversity."

Testing was conducted from September 2002, into February 2003 at National Technical Systems, Inc. (NTS), a nationally recognized leader in high performance combustion system testing, in Santa Clarita, California. Final analysis was recently completed validating years of concept development, design, computer simulations, and scaled model testing.

The gas generator, which replaces the boiler in a conventional power plant, can combine any one of a range of alternative fuels with oxygen and cooling water to produce a working fluid of steam and carbon dioxide (CO<sub>2</sub>). This working fluid drives turbines, which generate electricity. The steam is then cooled in a condenser to a liquid water state, and the CO<sub>2</sub> is extracted as a gas for conditioning for sale or other disposition. The CES technology offers the power industry the most cost-effective means of 100 percent CO<sub>2</sub> separation and capture.

The gas generator was manufactured to develop advanced power generation systems and was built and tested under the United States Department of Energy's Vision 21 Program. DOE's National Energy Technology Laboratory (NETL) funded 67% of the \$3.6 million project. CES is currently developing a small, near-zero emissions demonstration power plant, with the participation of the California Energy Commission, America Air Liquide, and the Mirant Corporation.

For more information on Mirant Corporation, please visit the company website at [www.mirant.com](http://www.mirant.com).

Present in 65 countries, Air Liquide is the world leader in industrial and medical gases and related services. Founded in 1902, Air Liquide has 30,800 employees. Since the publication of its first consolidated financial statements in 1971, Air Liquide has posted strong and steady earnings growth. Sales in 2002 totaled 7,900 million euros, sales outside France accounted for more than 80%. Air Liquide is listed on the Euronext Paris stock exchange and is a component of the CAC 40 and Eurostoxx 50 indexes – Euroclear code 12 007. For more information on AirLiquide please visit the company website at [www.airliquide.com](http://www.airliquide.com).