

## **ClearSign Contracts with Aera Energy LLC to Demonstrate Next-Generation NOx Emissions Control Technology in California's San Joaquin Valley**

**Company's technology aims to improve environmental performance while reducing operating costs of steam generators for Enhanced Oil Recovery**

SEATTLE, Aug. 19, 2014 /PRNewswire/ -- [ClearSign Combustion Corporation](#) (NASDAQ: CLIR), an emerging leader in combustion and emissions control technology for industrial, commercial and utility markets, announced today that it has entered into a Field Test Agreement with [Aera Energy LLC](#) to demonstrate and test its proprietary Duplex™ tile combustion technology in oil fields located in Kern County in central California.

The agreement also specifies pricing and delivery conditions that would apply if Aera purchases an agreed upon number of systems if ordered and installed within a specified period of time following successful completion of the demonstration and tests.

Under the terms of the agreement, ClearSign and its subcontracted field engineering team will retrofit an existing steam generator unit with ClearSign's Duplex tile technology to test capability to achieve ultra-low emissions (5 ppm) of nitrogen oxides, or NOx. The Duplex will be paired with an existing forced draft burner and will operate at a heat release of 30 to 60 MMBtu/hr (roughly equivalent to 9 to 18 MW). This will represent the largest scale demonstration under process conditions of the company's Duplex tile technology to date.

ClearSign plans to begin the project before the end of the current quarter.

As testing progresses, ClearSign will provide additional detail regarding their plans to enter the OTSG market, including identifying distribution partners.

### **About Enhanced Oil Recovery (EOR)**

The so-called "heavy oil" that comprises the oil sand reserves in areas like the San Joaquin Valley and Alberta, Canada is so thick that its viscosity must be reduced in order to recover, process or transport it. Steam is generated in large units called once through steam generators (OTSGs) and then pumped into the oil reservoir to heat the oil to allow it flow more easily.

Worldwide, 96.5% of Enhanced Oil Recovery (EOR) is performed via steam generation, of which 65% occurs in North America alone. In the United States, 94% of EOR occurs in California's San Joaquin Valley where 303,000 barrels per day (bpd) of oil are produced using 768 OTSGs, each averaging ~ 60 MMBtu/hr. In Canada, virtually all EOR occurs in Northern Alberta where almost four times (1.2 million bpd) the amount of oil is produced using 250 much larger OTSGs, each of which is over ~ 250 MMBtu/hr. Retrofit activity is expected to be a key market driver in the United States where the San Joaquin Valley Air Pollution Control District's Reg. 4320 mandates reductions in NOx to 9ppm or below. According to Visiongain, an explosion in new-build activity will characterize the market in Northern Alberta with the number of very large OTSGs expected to almost triple - to over 650 units - by 2023.

Note the existence of this agreement was disclosed during the Company's second quarter results call on August 12, 2014, however this announcement contains new information, including identifying Aera Energy LLC and other details.

### **About ClearSign Combustion Corporation**

ClearSign Combustion Corporation designs and develops technologies that aim to improve key performance characteristics of combustion systems including energy efficiency, emissions control, fuel flexibility and overall cost effectiveness. Our Duplex™ Burner Architecture and Electrodynamic Combustion Control™ (ECC™) platform technologies improve control of flame shape and heat transfer and optimize the complex chemical reactions that occur during combustion in order to minimize harmful emissions. For more information about the Company, please visit [www.clearsign.com](http://www.clearsign.com)

### **Cautionary note on forward-looking statements**

This press release includes forward-looking information and statements within the meaning of the Private Securities Litigation Reform Act of 1995 and the provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Except for historical information contained in this release, statements in this release may constitute forward-looking statements regarding our assumptions, projections, expectations, targets, intentions or beliefs about future events that are based on management's belief, as well as assumptions made by, and information currently available to, management. While we believe that our expectations are based upon reasonable assumptions, there can be no

assurances that our goals and strategy will be realized. Numerous factors, including risks and uncertainties, may affect our actual results and may cause results to differ materially from those expressed in forward-looking statements made by us or on our behalf. Some of these factors include the acceptance of existing and future products, the impact of competitive products and pricing, general business and economic conditions, and other factors detailed in our Quarterly Report on Form 10-Q and other periodic reports filed with the SEC. We specifically disclaim any obligation to update or revise any forward-looking statement whether as a result of new information, future developments or otherwise.

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For further information: CONTACTS: Media Contact: Kimberly Setliff, Antenna Group for ClearSign, (415) 977-1942, [clearsign@antennagroup.com](mailto:clearsign@antennagroup.com), Investor Relations: (206) 673-4848, [investors@clearsigncombustion.com](mailto:investors@clearsigncombustion.com)

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