

ClearSign Demonstrates Ultra Low Nox Emissions on Standard Residential Hot Water Heater

SEATTLE, March 11, 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 successfully demonstrated an early prototype design utilizing its Duplex™ burner architecture in a residential natural gas hot water heater, driving NOx levels to an unprecedented 7PPM (less than half the level currently required in the State of California). Unlike current approaches for small heaters that reduce NOx at the expense of energy efficiency, ClearSign's Duplex™ technology may actually improve overall energy efficiency and may also be uniquely suited to meet the demanding cost and volume requirements associated with residential gas furnaces.

"While these results are preliminary, they are certainly worthy of comment," CEO Rick Rutkowski said. "In the near term we remain intently focused on commercializing the Duplex technology to address high value industrial market segments for large systems such as refinery heaters and package boilers where we have strong pull from both end-users and commercial partners. We look forward to reporting very soon on the latest results from that ongoing technology and business development effort.

"However, we were able to complete this demonstration of a Duplex in a small residential heater quickly, and with a modest level of effort," Rutkowski continued. "We undertook the project in response to an inquiry from a senior manager at a major regional air quality management authority, so we believe that these very promising results may be greeted with great interest and enthusiasm.

"These are early results," emphasized ClearSign Chief Technology Officer Joe Colannino, "and there is more work to do, but based on our experience with the technology and the rapid and cost-effective manner in which we completed these preliminary tests, I am optimistic that with further refinement and optimization we will have the basis for a commercially viable design that can be produced in volume. Our confidence level regarding the feasibility of delivering a uniquely cost-effective and powerful NOx control solution for small water and air heaters has increased significantly."

According to the company, ClearSign's Duplex™ technology has proven to be capable of dramatically lowering NOx emissions as compared with existing Ultra Low NOx solutions. Moreover, current-generation industrial NOx control technologies, because of their complexity, have proven too expensive to implement in smaller scale systems. In contrast, Duplex™ technology may offer a uniquely powerful and energy-efficient solution for small heater applications as well as for large industrial boilers and process heaters.

"Our business model in this case would be to develop a prototype commercial configuration and license ClearSign's technology and designs to established manufacturers of residential and commercial furnaces and heating systems," Rutkowski explained. "We can now entertain the possibility of addressing a significant new market opportunity in a very capital efficient manner. We'll be sharing these results and testing the waters with potential OEM licensees in the near future."

According to the company, there are more than 50 million natural gas-fired residential hot water heaters in service in the United States and 35 million furnaces with combined total of almost 10 million units shipped annually. In the State of California 77% of residential units are required to install low NOx water heaters.

"We regard this as an important and very encouraging first step," added Rutkowski. "Just as the invention of catalytic converters for automobiles made pollution control cost effective for the first time at very high volumes, we believe there may be an opportunity for our Duplex technology to reduce NOx emissions in tens of millions of gas fired heating systems in the US and around the world."

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

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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