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FOR IMMEDIATE RELEASE

**RASIRC & the Fraunhofer Institute present *Purified Steam for Industrial Thermal Oxidation Processes*, at IEEE Photovoltaic Conference
*RASIRC at Booth #329***

San Diego, Calif. – June 17, 2010 – [RASIRC®](#), the steam purification company, and the Fraunhofer Institute for Solar Energy Systems ISE, will present results from their research on using purified steam in the solar cell fabrication process, at the 35th IEEE Photovoltaic Specialists Conference. The paper, *Purified Steam for Industrial Thermal Oxidation Processes*, compares purified steam with pyrolytic steam for the silicon solar cell fabrication. The conference is being held in Honolulu, Hawaii from June 20-25, 2010. The paper is part of the conference session "Posters, Crystalline Silicon: Device Fabrication and Manufacturing" held on June 24, 2010 from 10:30 AM to 12:00 PM.

Thermal silicon oxides are known to effectively passivate silicon surfaces and have been used for the fabrication of highly efficient silicon solar cells. Generally, the steam used for wet oxidation is produced by pyrolysis of highly purified hydrogen and oxygen gases. A new approach for direct steam delivery is to purify vaporized deionized water. This process decreases costs for expendables, eliminates hydrogen gas from the facility thereby improving safety, and because of increased saturation with steam in the process atmosphere it results in a higher cell growth rate during oxidation.

The paper compares the two steam generation technologies, analyzes the physical properties of purified steam grown thermal oxides, and implements a direct steam-based oxidation process into an industrial fabrication sequence for rear-surface passivated solar cells. Results show that by using industrial equipment for wet chemical cleaning and thermal oxidation, high effective carrier lifetimes of ~400 μ s on 1 Ohmcm floatzone wafers for both steam sources are achieved.

"Our research with Fraunhofer on using purified steam in the solar cell fabrication process has generated many positive and cost effective results," said RASIRC founder and president Jeffrey Spiegelman. "This result reveals that purified steam enables the growth of high quality thermal oxides for the industrial fabrication of thermal oxide-passivated silicon solar cells."

RASIRC will also present the poster *Water Vapor Delivery for CIGSe and Other Thin Film Vacuum Processes* at the conference and will be exhibiting its [ultrapure steam purification products](#) at booth #329.

About RASIRC

[RASIRC](#) products purify and deliver ultra pure liquids and gases. RASIRC technology is the first to generate ultra high purity (UHP) steam from de-ionized water. It reduces cost, increases yield, and improves safety. RASIRC dryers, [humidifiers](#), and [steam generators](#) are of critical importance for many applications in the semiconductor, pharmaceutical, medical, biological, fuel cell, and power industries. Custom systems are available upon request. Call 858-259-1220, e-mail info@rasirc.com, or visit www.rasirc.com.

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