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**Consortium Formed to Study Acoustic Fusion;
Could be Alternative to Oil, Gas, Coal and Nuclear Power**

Grass Valley, CA, Jan. 12, '05 – The Acoustic Fusion Technology Energy Consortium (AFTEC) has been formed by leading academic and commercial institutions to research and develop acoustic inertial confinement fusion (AICF) and its related science, technologies, and equipment. AFTEC's five founders are (alphabetically): Boston University; Impulse Devices, Inc.; Purdue University; University of Mississippi; and University of Washington Center for Industrial and Medical Ultrasound.

Dr. Wylene Dunbar, Director of AFTEC, today announced the group saying, "Acoustic fusion has an excellent chance of becoming the alternative to oil, gas, coal and nuclear energy for the world's electricity -- if it is funded appropriately."

"If AICF delivers on its potential, the impact would be enormous. Fusion could produce electricity with a process that yields virtually no pollution—just ordinary helium and heat," Dr. Dunbar observed. "With acoustic fusion, the fuel is essentially water, and the cost to build and operate a plant would be a fraction of other alternative energy facilities. Furthermore, the timetable for acoustic fusion is arguably far shorter than all other paths to fusion."

In AICF, sound waves bombard a liquid such as heavy water, to create tiny void "bubbles" or "cavities" of deuterium a/k/a heavy hydrogen. This produces very high temperatures and densities that, when high enough, fuse the heavy hydrogen into helium.

That fusion releases enormous heat that could be used to create steam and drive a turbine to produce electricity.

An emerging field, acoustic inertial confinement fusion can already lay claim to significant progress: A multi-institution team led by Dr. Rusi Taleyarkhan has twice documented fusion reactions taking place in an AICF reactor, with the results of those seminal experiments published in two prestigious, peer-reviewed journals, *Science* 295, 1868 (2002) and *Physical Review E* 69, 036109 (2004), and receiving publicity worldwide. Under the direction of its President, Ross Tessien, Impulse Devices has recently made available the first commercial research reactor for AICF.

Scientists leading AFTEC's research are preeminent in the field: Dr. R. Glynn Holt, Associate Professor, Department of Aerospace/Mechanical Engineering, Boston University; Dr. D. Felipe Gaitan, (discoverer of single-bubble sonoluminescence, a phenomenon closely related to acoustic fusion research), Chief Scientific Officer, Impulse Devices, Inc.; Dr. Rusi Taleyarkhan, The Ardent Bement Jr. Professor of Nuclear Engineering, Purdue University, and part-time Distinguished staff at a National Laboratory; Dr. Henry Bass, Director of the National Center for Physical Acoustics, University of Mississippi, and F.A.P. Barnard Distinguished Professor of Physics & Astronomy; and Dr. Lawrence A. Crum (leading researcher in the field of high intensity focused ultrasound and past president of The Acoustical Society of America) Professor of Bioengineering and Electrical Engineering and Director, Center for Industrial and Medical Ultrasound, Applied Physics Laboratory, University of Washington.

Members of AFTEC will work as a team to investigate acoustic fusion, Dr. Dunbar noted, and will consult with National Laboratory scientists for independent verification of positive results, as they are achieved.

“All of the scientists involved with this research appreciate that acoustic fusion is a relatively new field and one that has, so far, received little funding support,” Dr. Dunbar stated. “Nevertheless, given AICF’s potential for creating a limitless, nonpolluting source of sustainable energy, as well as myriad other applications, they also agree that the investigation of acoustic fusion is critically important and deserving of high priority.”

Dr. Dunbar received her Ph.D. in Philosophy from Vanderbilt University and her J.D. from the University of Mississippi.

For more information regarding AFTEC, contact Dr. Wylene Dunbar at 530-913-5539, wdun@acousticfusion.com.

