

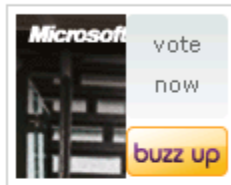
## Scientists confirm Cold Fusion experiment



Sustainability

By Samantha Rose Hunt

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**Chicago (IL) - It has been reported that researchers from the U.S. Navy's *Space and Naval Warfare Systems Center (SPAWAR)* have observed lab-controlled cold fusion. Whether or not it's possible to create and manage cold fusion is a subject debated endlessly since 1989 when**

**Martin Fleishmann and Stanly Pons claimed to have achieved cold fusion within the confines of their laboratory. It's finally been put to rest.**

Fusion is the process the stars draw their energy from. Scientists have spent years trying to recreate the process on Earth utilizing deuterium, a fuel which is easily extracted from seawater. Deuterium is a form of hydrogen, in that each atom contains one proton and one neutron. And for cold fusion, the neutron is what is needed. If a neutron is not able to be identified after a fusion event then there is no proof that fusion occurred.

Pons and Fleishmann stated that they achieved nuclear fusion at "cold" room temperatures utilizing a electrolytic cell. Their claim spiked major controversy in the scientific arena. And while other scientists have attempted vehemently to reproduce the results of their experiment, it has never been duplicated and cold fusion has ever since been a topic of controversy.

As a result, for almost 20 years the topic has been all but dead. It seems now that some individuals have not only pursuing the concept, but are potentially announcing Earth-shattering breakthroughs.

One major aspect standing in the way of applying research like this to practical applications (supplying energy) is the controversy and lack of funding. Moving past stigmas is difficult.

Cold fusion is now called *Low-Energy Nuclear Reactions* (LENR), but the concept remains. A neutron is required to prove that fusion has occurred. LENR could be utilized for the replication of energy, but it must be done at low temperatures. If LENR attempts are successful, the world would have a limitless supply of totally clean energy right here on Earth.

### **How it works**

Utilizing an electrode of gold or nickel, a team at SPAWAR was able to send an electric current through a *palladium chloride* and *deuterium* solution, which caused a reaction within seconds. Inside a special chamber made of CR-39 plastic, the team was able "to capture and track any high-energy particles that may have been emitted during reactions, including any neutrons emitted during the fusion of deuterium atoms. At the end of the experiment, they examined the plastic with a microscope and discovered patterns of 'triple tracks,' tiny-clusters of three adjacent pits that appear to split apart from a single point... [that] were made by subatomic particles released when neutrons smashed into the plastic."

The team believes the triple tracks prove neutrons are active during the reaction. However, it has yet to be determined what happens to cause the neutron's appearance. Right now the team believes the neutrons originate in nuclear reactions by the fusing or combining of deuterium nuclei.

### **Additional efforts**

Other scientists are also working to produce fusion. Tadahiko Mizuno, an assistant professor in the department of nuclear engineering at Hokkaido University in Japan claims that he detected gamma radiation and the production of helium gas during experiments. Both of these are byproducts of nuclear LENR reactions.

Even with findings such as these, many are still skeptical. Following a review of a July report furnished by LENR researchers, the U.S. Department of Energy stated that the evidence they were presented with "did not conclusively demonstrate the occurrence of cold fusion." The DOE recommended that research into the subject matter and researchers remain hopeful.

"The solution of the global warming issue... energy problems, and carbon dioxide can be expected by putting this nuclear reaction and the energy generation device to practical use," Mizuno said in a statement.

If scientists continue their research and experimentation, we could ultimately be provided with an answer to our energy concerns. The research groups in question are continuing to explore both theoretical and experimental studies in attempts to gain greater understandings of LENR and how it could be harnessed and utilized commercially.