

#3

October 12, 1988

Professor Neil Ashcroft  
LASSP  
Cornell University .  
Clark Hall  
Ithaca, NY 14853-2501

Dear Professor Ashcroft:

This will acknowledge, with thanks, the receipt of your comments on the proposal entitled, "The Behavior of Electrochemically Compressed Hydrogen and Deuterium."

Your kind assistance in our evaluation process is genuinely appreciated.

Sincerely,

Ryszard Gajewski, Director  
Division of Advanced Energy Projects  
Office of Basic Energy Sciences, ER-16

## **DISCLAIMER**

**Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.**

TO:

Dr. D. Barney  
DOE

Washington, DC 20545

000933

TELEFAX#

301-353-3370 (conf. #3486)

TELEPHONE#

301-353-5995

FROM:

Professor Neil Ashcroft

TELEPHONE#

(607) 255-4192

TELEFAX #

607-255-6428

CHARGE #

U76-8496

88 OCT 12 AM 11:01

MESSAGE CENTER

	1	2	3	4
CONTACTED	<i>J. J. J.</i>			
DATE/TIME	<i>12/15</i>			
PR. INI				



**Cornell University**

Laboratory of Atomic  
and Solid State Physics

Clark Hall  
Ithaca, NY 14853-2501

Telex WUI6713054

October 12, 1988

Dr. Ryszard Gajewski  
Director  
Division of Advanced Energy Projects  
Office of Basic Energy Sciences, ER-16  
Department of Energy  
Washington, DC 20545

Re: Pons/Fleischmann Proposal

Dear Dr. Gajewski,

I am sorry, but I find it very difficult to accept the preliminary findings of Pons/Fleischmann. Deuteriums in palladium are not significantly closer together than they are in solid deuterium. Thus if they are claiming fusion in Pd at the atomic length scales typical of this alloy, then they should also see similar results from pure solid deuterium. It is a rather obvious test.

The idea that the environment of palladium (as a host) is playing a role similar to the negative muon in muon catalysis of D-T is rather primitive. If the important quantity is the overlap of deuterium wave-functions, then it is not at all clear that a palladium host does any better than the molecule of deuterium.

So far as the so-called experiment is concerned, the investigators seem to have trouble in doing their energy bookkeeping and suggest that some "excesses" on the order of 10% are due to fusion. There is almost no discussion of possible heat leaks. The authors should be held to account for their statement that their experiment was "accompanied by an increase in the background radiation count in the lab of > 50%. The long term experiments were all terminated at about this time." It is scientifically irresponsible to leave things this way: what radiation? Why wasn't this followed up by the University safety people?

I don't think you should proceed with this.

Yours sincerely,

Neil W. Ashcroft  
Professor of Physics

NWA:ksl  
Enclosure



**Cornell University**

Laboratory of Atomic  
and Solid State Physics

Clark Hall  
Ithaca, NY 14853-2501

Telex WUI6713054

October 12, 1988

Dr. Ryszard Gajewski  
Director  
Division of Advanced Energy Projects  
Office of Basic Energy Sciences, ER-16  
Department of Energy  
Washington, DC 20545

Re: Pons/Fleischmann Proposal

Dear Dr. Gajewski,

I am sorry, but I find it very difficult to accept the preliminary findings of Pons/Fleischmann. Deuteriums in palladium are not significantly closer together than they are in solid deuterium. Thus if they are claiming fusion in Pd at the atomic length scales typical of this alloy, then they should also see similar results from pure solid deuterium. It is a rather obvious test.

The idea that the environment of palladium (as a host) is playing a role similar to the negative muon in muon catalysis of D-T is rather primitive. If the important quantity is the overlap of deuterium wave-functions, then it is not at all clear that a palladium host does any better than the molecule of deuterium.

So far as the so-called experiment is concerned, the investigators seem to have trouble in doing their energy bookkeeping and suggest that some "excesses" on the order of 10% are due to fusion. There is almost no discussion of possible heat leaks. The authors should be held to account for their statement that their experiment was "accompanied by an increase in the background radiation count in the lab of > 50%. The long term experiments were all terminated at about this time." It is scientifically irresponsible to leave things this way: what radiation? Why wasn't this followed up by the University safety people?

I don't think you should proceed with this.

Yours sincerely,

Neil W. Ashcroft  
Professor of Physics

NWA:ksl

Enclosure