

JUL 14 1989

ER-16 R.T.

RGajewski
7/14/89

Dr. David C. Johannsen
877 Coriander Drive
Torrance, CA 90502

Dear Dr. Johannsen:

This is in response to your March 24, 1989, letter to President Bush. Please accept my apology for the lateness of this reply; occasionally our internal mail system is not as efficient as we would like it to be.

Your letter, written the day following the University of Utah announcement, reflects the excitement and anticipation felt at the time by many, both in the scientific community and in the Government. Since those days, hundreds of scientists, including scores at the Department of Energy scientific laboratories, spent countless hours trying to reproduce and understand the originally reported results. Concurrently, at the request of the Secretary of Energy, Admiral Watkins, a specially formed Cold Fusion Panel of the Energy Research Advisory Board (ERAB) has been reviewing the scientific results reported by various groups. ERAB is expected to provide advise to the Secretary on matters pertaining to cold fusion, first in a preliminary report due July 31, 1989, then in a final report, to be submitted by November 15, 1989. Those reports will undoubtedly influence future Departmental actions in the field of cold fusion. I am requesting that your name be included on the mailing lists for both the interim and final ERAB reports.

Thank you for writing the President to inform him of your concerns. Your views have been noted.

Sincerely,

Original signed by:
Ryszard Gajewski

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

ER-16:RGajewski:tla:3-3054:7/14/89:c:es:johann
ES#89-009581:ER#89-306:due date 7/20/89

bcc: ER-60, ER-61, ER-622(FRSTL), MA-1.22/4



Department of Energy
Washington, DC 20545

July 14, 1989

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877 Coriander Drive
Torrance, CA 90502

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Ryszard Gajewski

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

SPEC INT: _____ CONTROL NO: ES89-009581
 DATE CORR: 03/24/89 DATE RECD: 07/07/89 DATE CNTRL: 07/10/89 DATE DUE: 07/24/89
 LETTER: X MEMO: _____ TWX: _____ OTHER: _____ TO: SECY: _____ DEP SEC: _____ UN SEC: _____ OTHER: WH

DMJOHANNSEN, DAVID C CA 0

REMARKS:

SUBJ: NUCLEAR
 FUSION
 URGES QUICK DEVELOPMENT OF
 COLD FUSION

FOR USE BY ACTION OFFICE ONLY			
ACTION REFERRED TO	DATE	RETURN TO	DUE DATE
1			
2			
3			

ACTION TO: ER TYPE ACTION: Reply direct SIG OF: _____
 CONCURRENCE: _____
 INFORMATION: DS US MA/1.22 D0/4
 FILE CODE: WBJOHANNSEN-ES89009581 CONTROL ANALYST: TRAVIS HULSEY . . 507

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FROM: White House Johannsen, David		DATE OF DOCUMENT: 3/24/89	DATE RECEIVED: 7/11/89	NO: 89-306
TO: President George Bush		LTR: X	MEMO:	REPORT: OTHER:
REG. NO:		DUE DATE: 7/20/89	FILE CODE:	DATE ANSWERED: BY:
DESCRIPTION (Must Be Unclassified): Urges Quick Development Of Cold Fusion		REFERRED TO: Gajewski-Action	DATE: 7/11	RECEIVED BY: DATE:
ENCLOSURES:		I. Adler-Info	7/11	
REMARKS: ES# 89-009581 Reply direct DUE 7/20/89		ACTION		
		DESTRUCTION RECORD: COPY NUMBER(S) _____ PAGE COUNT _____ DATE: _____ DESTROYED BY: _____		

24 March 1989
877 Coriander Drive
Torrance, CA 90502

The Honorable George Bush
President of the United States
The White House
Washington, DC 20500

Dear Mr. President

I am writing to you concerning a discovery which, if confirmed, could be regarded by future generations as the most important development of the twentieth century: the just reported achievement of nuclear fusion at room temperature. Due to the simplicity of the approach, I expect that it will be tested around the world in the next few weeks. If it does work, it will have an enormous effect on the economic, military, and political balance in the world. I therefore feel that it is vital that the United States be prepared to move forward quickly in developing the technology not only for generating power using this approach, but also for employing the power thus generated. I shall elaborate on this presently.

Let me pause at this point to note that I do have some expertise in this area. My Ph.D. is in theoretical particle physics, and I currently work for Aerospace Corporation monitoring the development of directed energy weapon technology for strategic defense. Thus my opinions are based on a reasoned understanding of the potential presented by this apparent breakthrough, as opposed to being a product of the superficial hype found in the initial reporting of the matter by the news media.

The most important promise of this discovery, of course, is a clean, inexpensive, and effectively inexhaustible source of energy. Obviously, this directly addresses the problems of limited fossil fuel supplies, pollution, the greenhouse effect, and economic development throughout the world. But there are also more subtle implications.

To begin with, there is the potential for a small-sized generator using very modest amounts of fuel. This would have applications in space, and on and under the oceans. Military applications could also involve power supplies on aircraft, trucks, and other vehicles. Getting power to remote locations in a hurry can be invaluable.

Fundamental changes in how we power our transportation are possible. If electricity can be produced with fusion, as opposed to by burning fossil fuels, it may become economically viable, as well as environmentally desirable, to switch from petroleum-based fuels to hydrogen for automobile and aircraft propulsion. Hydrogen can be efficiently produced from water if inexpensive electricity is available; when it is burned, you merely recover the water, which is obviously environmentally safe. Hydrogen-engine technology is hence an area which could become important if this breakthrough is true. This is but one example of a technology area which, although not directly related to the production of fusion energy, would nonetheless become very important with fusion power a reality.

Clearly, it is vital that the nation be prepared to move forward rapidly if this discovery is proven out. The Department of Energy has given Pons and Fleischmann--the discoverers of the process--a grant of \$322,000 to continue their work. But this represents less than *one-tenth of one percent* of the department's annual spending on fusion research. There are probably individual companies in Japan which will be willing to spend greater amounts of their own money on something with such a vast commercial potential. The recent discovery of high-temperature superconductivity is a minor occurrence by comparison with the potential of room temperature fusion energy production. And yet we are already concerned that we have fallen behind in the race to develop superconductivity technology. Can we risk failing to take the lead in something so very much more important?

If scientists repeating the experiment over the coming weeks succeed in duplicating the results, I think that the United States should very quickly begin funding research into developing the process into a practical power generator, and also begin funding the development of technologies which would make use of the power thereby generated. An example is hydrogen engines, as mentioned. All of this could be accomplished by shifting funds away from current fusion programs (which have, after all, accomplished very little for vast sums of money) into research which suddenly looks much more promising. I realize that this is difficult to do politically, because of the entrenched constituencies which the existing large programs have created. But I believe that such a change in direction will be essential to maintain our position of leadership in the world if room temperature fusion proves to be a reality; I also have faith that you have the foresight and political courage to take a lead in asserting America's role in what may be a new epoch of civilization--the era of unlimited energy availability.

Sincerely


David C. Johannsen, Ph.D.