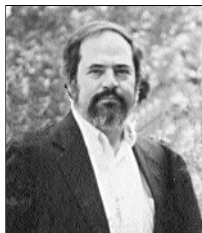


BREAKING THROUGH



Dear Mr. President:

An open letter

A Remarkable Energy Weapon for Peace Has Been Overlooked

by Eugene F. Mallove, Sc.D.

We bring to your attention a matter of great urgency on the path to a lasting victory over terrorism and to achieve enduring peace. A remarkable discovery made in the United States in the 1980s has been overlooked, because of a serious flaw in our funding for nuclear research. This matter is of the gravest concern, because it is a proven method to extract clean energy from simple, abundant materials. It has yet to be reduced to practical application, but with your help it could be.

I wrote to you earlier this year on this very topic. Indeed, you will find my "Memorandum to the White House" posted on our web site (www.infinite-energy.com). Perhaps amid the intensity of your demanding work, you were unable to respond earlier, or maybe your staff did not believe or recognize the significance of the message. The time has now come for you to render your judgment and assistance during this period of national tribulation.

I write to you again in a humble and hopeful spirit, one month after the appalling terrorist atrocity against our beloved country and the world. It is a new day and I applaud your determination to destroy terrorism wherever it hides or rears its fanatical, ugly head. I personally approve of using measured and crushing military power to administer *infinite justice* on the road to *enduring freedom*. But eliminating terrorism demands using every tool in our possession, as you have so rightly said. Please, Mr. President, heed our call to investigate a remarkable, overlooked weapon for peace and lasting freedom from terrorism. Let me repeat the Executive Summary of my earlier Memorandum, which makes the essential points (see inset).

Executive Summary of 2001 Memorandum to the White House



Beginning in 1989, a class of new energy technologies has been developed that has the potential to provide pollution-free energy of a magnitude far greater than fossil fuel, using forms of hydrogen from water as the fuel in novel catalytic conditions. The technologies challenge the understanding of physics which has been used to justify continued investment in fossil fuels, nuclear power plants, and the so-called "hot fusion" energy research programs. The U.S. government has spent at least \$15 billion on hot fusion without achieving the "breakeven" point already achieved by the new energy technologies.

Hydrogen as a fuel in engines and fuel cells has been discussed and demonstrated for several decades. Fuel cells are emerging into the commercial market, using hydrogen-rich chemical compounds. These systems are based on chemical reactions whose energy density (energy per unit of fuel) is very low. There are serious problems in making, storing, and transporting hydrogen. The new energy technologies use hydrogen in a far different way that extracts thousands to millions of times the ordinary chemical combustion energy of hydrogen. Thus, water is fuel!

In 1989, after five years of work and investment of \$100,000 of their own money, Professors Stanley Pons and Martin Fleischmann announced the release of nuclear-scale energy from an electrochemical cell using palladium as the cathode metal. In the cell, heavy hydrogen is forced into the palladium until a new class of nuclear reactions occurs, in which energy of great intensity is released without the deadly radiation or radioactive by-products produced by other nuclear energy processes. The Pons-Fleischmann announcement ignited a controversy that is documented in the body and references of this memorandum.

The DOE Energy Research Advisory Board "Cold Fusion Panel" was convened at the direction of President Bush to review the "cold fusion" controversy in its early days. The panel relied heavily on misleading reports from the California Institute of Technology, Harwell (England), and the Massachusetts Institute of Technology. Reports from all three sources were negative, and

Matters have changed for the better since I wrote that Memorandum to you. Most important, through extensive research at our New Energy Research Laboratory here in Bow, New Hampshire, in collaboration with other scientists across the United States, *we are now prepared to show you and your scientific advisors a conclusive demonstration of an important manifestation of this energy source*, which comes apparently from the heavy hydrogen component in ordinary water. This “sonofusion” process, developed by Silicon Valley scientist Roger Stringham of First Gate Energies, has now been tamed by our group in the form of a small demonstration reactor. It has recently output over eight watts of astonishing cold fusion power for a prolonged period—far longer than required to determine that the “excess power” is of nuclear origin. The possi-

ble error in the measured excess power is a tiny 0.2 watt, far smaller than the 8-watt enduring output power. (See additional description on page 36.)

Let that demonstration to you and your advisors be the beginning of a joyful turn-around in a tragedy of errors by official science and the Department of Energy over the past decade. Thereafter, your science and security advisors, as well as newly enlightened members of the Department of Energy, will be able to do the right things, we hope. It is essential that research on and patenting of this new technology no longer be obstructed by bureaucracy and people who were too quick to reject new ideas before careful evaluation.

Perhaps you did not know that there is an incontrovertible fact, well known to scientists working to control thermonuclear fusion energy for

peaceful power production: Within only *one* cubic kilometer of water, there exists enough heavy hydrogen isotope, deuterium (heavy hydrogen), such that if it is fused to the element helium at multi-million-degree temperatures, enough energy is released to equal the combustion energy of all the world’s *known* oil. This planet has at least one billion cubic kilometers of water; there is no danger of running out of this fuel.

Or, look at it this way: In only one gallon of ordinary water, there is enough heavy hydrogen to produce the energy equivalent of 300 gallons of gasoline. Heavy hydrogen or deuterium, by the way, is simply hydrogen that bears an extra neutron in its nucleus. It is non-radioactive and easy to extract from water very cheaply.

If we had a way to tap this fusion energy safely and cheaply, the world’s energy problems would be over; most if not all environmental problems would be well on their way to solution. If we could find a way to release this fusion energy benignly without deadly radiation, and on a small scale, rather than in the stadium-like tokamak thermonuclear fusion reactors—smaller, dysfunctional prototypes of which are being tested at fantastic cost at Princeton, MIT, and elsewhere—a millennial revolution in energy technology would break out. Millions of new high-technology jobs would be created almost overnight—just as at the birth of aviation at the beginning of the last century. The economy would prosper and expand, not collapse! Best of all, it would mean true, blessed energy independence for our nation and the world! It would mean an age in which the recurring cost of energy production would approach zero, since the heavy hydrogen is virtually free. The scope of that revolution would dwarf today’s Internet-World Wide Web upheaval. The age of “free information” would have a partner: the age of virtually free energy. It may surprise you to learn that the energy discovery described above has been confirmed by solid published scientific research—some of that by Federal laboratories. Unfortunately, the message of that research was overlooked, like intelligence gathering that is occasionally ignored, to the detriment of our health and safety.

ERAB recommended against any government investment in “cold fusion.” This had far-reaching consequences, which seriously impeded but did not stop advances in the field.

After over a decade of work, hundreds of peer-reviewed scientific papers from laboratories around the world confirm the Pons-Fleischmann discovery. It was just the tip of an iceberg of a whole class of nuclear reactions—and other new hydrogen reactions—which occur in metals that are heavily loaded with heavy or normal hydrogen by any of several means. These are often called Low-Energy Nuclear Reactions (LENR), or Chemically-Assisted Nuclear Reactions (CANR). There is also a process, pioneered by BlackLight Power, Inc., that produces catalytically altered hydrogen atoms. What these processes have in common is the release of intense, nuclear-scale energies without damaging radiation or radioactive by-products. Reactors are small scale, requiring simple apparatus and common materials with hydrogen as the fuel. Transmutations of the metal cathode materials are commonly produced. In some cases, where radioactive materials such as uranium and thorium are used in the cells, these are rapidly transmuted into harmless by-products without production of harmful radiation or explosions. In principle, radioactive waste from nuclear reactors can similarly be deactivated without the political and economic costs of burial.

Collectively, these emerging technologies point to a much brighter future for mankind. They do not require resources controlled by any small group of countries. They are concentrated, portable, and democratic. Low cost realization and distribution of devices and systems based on these technologies will require the resources of a market economy and the removal of internal opposition from vested interests in the U.S. government and industries, including arbitrary blocking of “cold fusion” patent applications by the U.S. Patent Office. Originators of these technologies may make fortunes, but in the end mankind will be the beneficiary. Mr. President, you need do only one thing now: Publicly state that you are going to investigate this matter and then do it.

For just over a decade, the cold fusion and low-energy nuclear reactions revolution has been underway, whether or not the mainstream physics/chemistry establishment and the general science media wish to agree. The barrier that separated conventionally understood chemistry and nuclear physics has come crashing down like the infamous Berlin Wall. The barrier does not exist, at least not within special microphysical domains of palladium, nickel, and other metals in contact with hydrogen. Exotic new physics is at work. The myth of the "End of Science" is again disproved.

Mr. President, the rest may be up to you. You have heard the story. It is true. Every word. Nothing will hold back the cold fusion/new energy revolution from happening in due course, but with the stroke of your pen, a few taps on your computer, or perhaps a few telephone calls, you have it in your power to help accelerate the Cold Fusion/New Energy Age. Just as Secretary of War William Howard Taft in the Roosevelt Administration cut through bureaucratic opposition and forced the Army to call the Wright brothers in 1908 to demonstrate their "flyer" to a crowd of thousands at Ft. Meyer, Virginia—and thereby ended years of doubt about their 1903 accomplishment, launching the Aerospace Age—you can break the opposition of the perpetrators of the "HeavyWatergate" scandal.

That act of courage and imagination will never be for-

gotten. Now more than ever, our country and the world needs an act of courage to break through. We pray that you will render this modest assistance. You may think it politically risky to become involved in a controversial matter. But think of this: What is the risk of *not* becoming involved in a controversial matter that happens to be right? And is this not a time that demands high courage?

Let me end with a few remarks made by Sir Arthur C. Clarke in 1999, who recommended in early 2000 that the White House staff request this essay from me:

"Like everyone else, I was very excited when the so-called 'cold fusion' announcement was made. And then, again like everybody else, I became disappointed and forgot about the whole thing when it seemed to be a mistake, though I was rather puzzled why two world-class scientists could have made such fools of themselves. Well, during the years that followed, slowly, from time to time, there came news of other laboratories repeating the experiment and getting positive results. And there has been a sort of groundswell, all over the whole world, of new information. And during the course of the last five years or so, I've slowly become convinced, from my original skepticism, to 99% certainty that it is for real. The evidence now is really overwhelming. . .

"If these new sources of energy do turn out to be real—and as I say there are several totally different varieties – the question is: What effect will this have on our society? On the future? Well, it's just possible they may be no more than laboratory curiosities, and can't be scaled up to commercial levels. I think that's rather unlikely. Nuclear energy was once a laboratory curiosity. So let's assume that these devices can be developed. The future is then almost unlimited. It could be the end of the fossil fuel age: the end of oil and coal. And the end, incidentally, of many of our worries about global pollution and global warming."

Let me end this letter with a statement of the spirit which I think you will agree led to so many great discoveries and technologies: "Anything that is theoretically possible will be achieved in practice, no matter what the technical difficulties, if it is desired greatly enough." (Arthur C. Clarke, *Profiles of the Future*, 1963). I hope that you will receive this letter in that spirit. Let me thank you, in advance, on behalf of hundreds of researchers in this field who would deeply appreciate your concern and action.

Sincerely,
Dr. Eugene F. Mallove
Editor-in-Chief, *Infinite Energy*



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