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April 28, 1997

Jack Gibbons, Director
 Office of Science and Technology Policy
 Old Executive Office Building
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 [202-456-7116]

For His Eyes

Letter from Hans Bethe to the President

Dear Jack,

Please find attached a letter from Hans Bethe to the President. The letter urges the President to make it the policy of the United States that our weapons laboratories will not pursue the design of new types of nuclear weapons. Pure fusion weapons are given as example.

You may recall from the February 18, 1996 letter to you from Ray Kidder and myself that it has been publicly reported that the weapons labs have been pushing for an exemption from the CTBT for pure fusion explosions ignited directly or indirectly by the implosion of high-explosives. Unlike the widely-accepted exemptions for laser and accelerator driven inertial-confinement implosions, compact high-explosive-driven systems could have weapons applications. Indeed, the early research on such systems was inspired first by Edward Teller's interest in a "clean" hydrogen bomb and later by Sam Cohen's interest in a neutron bomb. The quantities of fusion achieved by these means thus far may be far short of what would be required for weapons applications but that should make it easier to stop them now before a break-through can be achieved.

Given that the President will soon submit the Comprehensive Test Ban Treaty for ratification, Bethe's letter is very timely. The lavish funding and technological exuberance of the "Science-Based Stockpile Stewardship Program" have created concern in a number of countries and arms-control groups that the U.S. Government might still be interested in developing new types of nuclear weapons. The President could help defuse such suspicions when he submits the CTBT to the Senate, by announcing that he intends, in Bethe's words, "to discipline the bureaucracy" and to assure the world "that America is vigilant in its

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desire to ensure that new kinds of nuclear weapons are not created." This could be done by asking an independent group of consultants to periodically conduct a peer review of the research being conducted under the Science Based Stockpile Stewardship program to assure that the knowledge that is being developed is not being applied to the development of new types of nuclear weapons.

We hope that you will personally deliver Bethe's letter to the President and explain to him its significance and the stature of its author as a physicist, a weapons expert and an expert on the CTBT. The FAS plans to release Bethe's letter to the press in a week. We hope that will allow adequate time for the President and his advisors to decide on an appropriate response.

With very best regards,



Frank von Hippel, Chairman
FAS Fund (the research arm of the Federation of American Scientists)

F.A.S.

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April 25, 1997

President William E. Clinton
The White House
1600 Pennsylvania Avenue, N.W.
Washington, D.C. 20500

My Dear Mr. President:

As the Director of the Theoretical Division at Los Alamos, I participated at the most senior level in the World War II Manhattan Project that produced the first atomic weapons. Now, at age 90, I am one of the few remaining senior project participants. And I have followed closely, and participated in, the major issues of the nuclear arms race and disarmament during the last half century. I ask to be permitted to express a related opinion.

It seems that the time has come for our Nation to declare that it is not working, in any way, to develop further weapons of mass destruction of any kind. In particular, this means not financing work looking toward the possibility of new designs for nuclear weapons. And it certainly means not working on new types of nuclear weapons, such as pure-fusion weapons.

The United States already possesses a very wide range of different designs of nuclear weapons and needs no more. Further, it is our own splendid weapons laboratories that are, by far and without any question, the most likely to succeed in such nuclear inventions. Since any new types of weapons would, in time, spread to others and present a threat to us, it is logical for us not to pioneer further in this field.

In some cases, such as pure-fusion weapons, success is unlikely. But even reports of our seeking to invent them could be, from a political point of view, very damaging to our national image and to our effort to maintain a world-wide campaign for nuclear disarmament. Do you, for example, want scientists in laboratories under your Administration trying to invent nuclear weapons so efficient, compared to conventional weapons, that someday, if an unlikely success *were* achieved, they would be a new option for terrorists?

This matter is sure to be raised in conjunction with the Senate's review of the Comprehensive Test Ban Treaty, because that Treaty raises the question of what

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experiments are, and what experiments are not, permitted. In my judgment, the time has come to cease all physical experiments, no matter how small their yield, whose primary purpose is to design new types of nuclear weapons, as opposed to developing peaceful uses of nuclear energy. Indeed, if I were President, I would not fund computational experiments, or even creative thought designed to produce new categories of nuclear weapons. After all, the big secret about the atomic bomb was that it *could* be done. Why should taxpayers pay to learn new such secrets--secrets that will eventually leak--even and especially if we do not plan, ourselves, to implement the secrets?

In effect, the President of the United States, the laboratory directors, and the atomic scientists in the laboratories should all adopt the stance of the "Atomic Scientists' Appeal to Colleagues," which was promulgated two years ago, to "cease and desist from work creating, developing, improving and manufacturing further nuclear weapons--and, for that matter, other weapons of potential mass destruction such as chemical and biological weapons."

I fully support the Science-based Stockpile Stewardship program, which ensures that the existing nuclear weapons remain fully operative. This is a challenging program to fulfill in the absence of nuclear tests. But neither it nor any of the other Comprehensive Test Ban Treaty Safeguards require the laboratories to engage in creative work or physical or computational experiments on the design of new types of nuclear weapons, and they should not do so.

In particular, the basic capability to resume nuclear test activities can and will be maintained, under the Stockpile Stewardship program, without attempting to design new types of nuclear weapons. And even if the Department of Energy is charged to "maintain capability to design, fabricate and certify new warheads"--which I do not believe is necessary--this also would not require or justify research into new types of nuclear weapons.

The underlying purpose of a complete cessation of nuclear testing mandated by the Comprehensive Test Ban Treaty is to prevent new nuclear weapons from emerging and this certainly suggests doing everything we can to prevent new categories of nuclear weapons from being discovered. It is in our national and global interest to stand true to this underlying purpose.

Accordingly, I hope you will review this matter personally to satisfy yourself that no nuclear weapons design work is being done, under the cover of your Safeguards or other policies, that you would not certify as absolutely required. Perhaps, in conjunction with the Comprehensive Nuclear Test Ban Treaty hearings in the Senate, you might consider making a suitable pronouncement along these lines, to discipline the bureaucracy, and to reassure the world that America is vigilant in its desire to ensure that new kinds of nuclear weapons are not created.

Sincerely,



Hans A. Bethe

Director, Theoretical Division, Los Alamos, 1943-1945
Professor (now Emeritus), Cornell University, 1935 to present
Nobel Laureate, 1967