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February 14, 1958

## MEMORANDUM TO THE PRESIDENT

It is particularly important at the present time to make the world understand the positive value of continued U. S. nuclear testing. Test cessation is now widely regarded as necessary, long overdue, and forced from a reluctant United States by the pressure of righteous world opinion.

The new approach outlined below could regain the initiative for the U. S. and place the USSR at a disadvantage, as did the Atoms for Peace and Open Skies proposals. It should: (1) demonstrate the real risks for mankind involved in test cessation, (2) show our determination not to accept such risks lightly, and (3) force maximum concessions from Russia in return for test cessation if we decide to acquiesce in the end. If skillfully done, this program might pass the onus to Russia as the nation willing to perpetuate existing deadly risks to mankind by opposing our attempts to control radioactivity. Thus Russia might appear the threat to humanity, not the U. S.

The case for clean nuclear weapons and testing to develop them was brilliantly presented by Dr. Teller in the February 10, 1958, edition of Life. The attachment, which was prepared by Captain John H. Morse of the AEC staff, presents the case in more detail and includes answers to possible objections to testing for clean weapon development.

If you should conclude that, barring Soviet acceptance of our package disarmament proposals, test cessation at the present time is counter to the long-term welfare of mankind as well as national and free world security. I recommend that we make the decision to develop a stockpile of clean weapons in all yield ranges and take vigorous steps to explain our position to the world.

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**SECRET**

-2-

The first dramatic step to explain our position could well be an announcement by you before the UN, or other appropriate forum, that, pending a safeguarded nuclear weapon ban plus inspection and disarmament, the U. S. will (1) produce and use only clean weapons (as soon as testing develops that capability) and use them only in self defense; (2) eliminate all or most of the danger from nuclear testing by testing under ground or by testing above ground in clean versions only; and (3) share the principles of clean weapons with the Soviet Union in order that it also may protect the rest of mankind in the event of nuclear war.

Although the offer to share the principles of clean weapons may be opposed on political and technical grounds and cannot be implemented with respect to wholly clean weapons until we know how to make them, it is most important psychologically and should not be discarded without convincing evidence that the disclosures which might be involved would be contrary to national interest. Failure to tie this offer to the other proposals might lead to a demand by the USSR or a neutral country that we show good faith by sharing our knowledge.

F. M. Dearborn, Jr.

Attachment

The Case for Clean  
Nuclear Weapons



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## THE CASE FOR CLEAN NUCLEAR WEAPONS

All nuclear weapons of present design produce large amounts of radioactive debris - in the air when air burst, on the ground and in the air when ground burst. Human injury from this debris is directly proportional to the amount produced and absorbed.

Scientists disagree on the hazards imposed by nuclear tests. They agree that the debris and its human effects from nuclear war with present weapons would be infinitely worse than tests. They disagree somewhat upon the ultimate world-wide injury from wartime nuclear debris, as they do on the similar but lesser issue of tests. The most pessimistic believe that the human race may be deformed or annihilated. Others are more sanguine. Even the most sanguine anticipate many casualties from wartime radioactive debris in or near areas of conflict. No one knows; and the growing problem of world-wide contamination, even from peaceful uses and radioactive waste disposal, is a subject of increasing concern.

At this initial stage of knowledge, it would be foolhardy to create vast quantities of radioactive debris by nuclear war, despite the belief of some scientists that its effects would be insignificant in comparison with the direct effects of such a war. As insurance for us and for humanity against the possibility that the optimists might be wrong, we would be wise to avoid this incompletely evaluated peril as best we can - by avoiding nuclear war, if possible, and by using only clean weapons if we cannot avoid it.

We depend increasingly upon nuclear weapons to oppose Russia; yet our clean weapon capabilities are still embryonic. The stockpile contains none. Without policy changes and continued tests there will never be many because the military show little real interest in clean weapons, and wholly clean ones cannot be developed if tests stop. On the other hand, given a high priority, continued tests should bring advances in this field similar to the phenomenal progress achieved in high yield weapons.

There are compelling reasons why all nuclear weapons should be basically clean. Some of the reasons for development of clean weapons of all sizes are -

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Authority MR 76-45 #131

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**SECRET**

-2-

SELF INTEREST

1. To reduce the unevaluated hazard of radioactive contamination, both world-wide and local. There is no reason why weapons used in our own defense should be dirty. Allies who plan their defenses with our weapons would have a similar interest in clean weapons if they but understood the implications: neutrals, too, in view of the risk to themselves, wherever they are, if dirty weapons are used.

2. To reduce the risk of limited war expanding into all-out nuclear war. This well founded fear, diligently fostered by Russia, is largely due to the common reputation of present nuclear weapons for indiscriminate destruction. If their radioactivity and energy can be reduced, and used with discrimination and discretion to oppose local military aggression by destruction of military forces alone, the risk of expansion is correspondingly reduced. It is to everybody's interest that local engagements remain local. The closer nuclear weapons approach conventional weapons in characteristics and reputation, the more effectively they can be used to replace conventional defensive capabilities.

3. To develop peaceful applications. Energy serves man to the extent he tames it. Nuclear explosives are no exception. If small enough and clean, nuclear dynamite will become commonplace, working for rather than against man - easier, quicker, and perhaps in time even cheaper than conventional explosives. We could demonstrate some applications now. Most will be blocked by test cessation.

MORAL

Needless destruction or injury in pursuit of national or military objectives is immoral. Both Russia and America seem immoral by their willingness to use indiscriminate weapons whose radioactivity is beyond control, and whose energy is usually excessive.

We may be sacrificing a latent leadership and the inspiration inherent in the posture of a moral nation determined and able to fight clean, and with discrimination, if forced to fight in self defense. Such a posture is denied us without clean weapons of all sizes and publicly stated intent to control the destruction of our weapons.

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**SECRET**

-3-

### POLITICAL

How long will friends or neutrals remain friendly or neutral while threatened by needless suffering from our indiscriminate weapons? Such considerations now severely limit our foreign policy; NATO is an example. In Europe our friends fear nuclear defense almost as much as Russian aggression. They are reluctant to accept our missile bases, partly because of our nuclear limitations and reputation. If the chips are ever down, nuclear fears may predominate, unless the present climate of opinion changes.

For practical purposes Russia has achieved her objective of banning the bomb. By her own massive deterrent she renders all-out nuclear war unacceptable to us except in defense or when our national security is otherwise deemed at stake. By skillfully inciting the widespread belief that any nuclear weapon anywhere means inevitable all-out nuclear war, she blocks our use of weapons short of all-out war. We can escape from this strait jacket only if we deny such Russian assertions, give evidence of discretion and restraint in the use of nuclear weapons, and develop weapons to that end - clean weapons of all sizes.

### MILITARY

1. Hard targets require high yield surface burst weapons. Vast and deadly areas of nuclear contamination can result. Friendly forces, friendly populations, or neutrals may suffer. The use of ground burst nuclear weapons may involve a choice between moral, political, and military considerations, and the latter may suffer. Or the others. Either way, clean weapons, by reducing the area and amount of contamination, reduce the problem.

2. In war it may be necessary to traverse or occupy burst areas. Again, this is easier if the weapons are clean.

The principal objection which might be raised to stressing the reasons for continued testing is the implied admission that present weapons are dangerously radioactive. On the other hand, U. S. agreement on the single issue of test suspension would imply the same admission. The impression is already so widespread that our position could scarcely be worsened in this respect.

**SECRET**



~~SECRET~~

-4-

If we could obtain Soviet agreement to all our London proposals for suspension of testing, control of production, inspection and disarmament, the benefits of such an agreement might out-weigh these reasons for additional tests. However, it seems more likely that we will be cornered on the narrow issue of test suspension and faced with a decision which will be against national and Free World interests, with no assurance of compensating safeguards for national security in other respects.

Attached are:

Annex I - Objections to testing to develop clean weapons, with refutations, some of which may serve as valid justifications for further tests.

Annex II - Justifications currently used for continuing tests, and the damaging replies they evoke from opponents.



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ANNEX I

Objections to Testing to Develop Clean Weapons and Answers  
Which May Serve as Justification for Further Tests

1. The hazards of radioactivity are exaggerated.

Perhaps, but no one knows. Until we do, common sense requires that we avoid such hazards if we can.

2. Military needs for clean weapons are slight; they weigh more and are less efficient in nuclear material than present weapons. Why put priority on their development?

The military should recognize the limitations on the use of nuclear weapons now imposed by universal fear of all nuclear weapons. Present clean weapon weight and efficiency limitations are temporary, given further development. Which is worse, stop all development, or accept some limitations which still permit extensive improvement?



3. Since clean weapons weigh more than dirty ones of equal yield, their use reduces our total destruction deliverable upon Russia, thereby reducing our deterrent and increasing the risk of war.

Deterrent is a frame of mind induced by estimates of relative national capabilities and resolves. It is never a direct comparison of deliverable megatons of destruction, particularly when neither side knows the exact capabilities of the other.

The use of clean weapons in the larger sizes would not greatly reduce our deliverable megatons even now, and less in the future with further development. Only a few years ago dirty weapons weighed more than present clean ones of equivalent yield. The deterrent policy would not suffer now by promising to use clean weapons.

4. By reducing radioactivity we reduce the deterrent and make war more probable.

All-out war, no, because all-out nuclear war is unacceptable to both sides whether clean or dirty weapons are involved. All participating nations would probably die in either case. Deterrent to all-out war therefore remains, no matter what kind of mass destruction weapons might be used.

~~SECRET~~

-6-

For limited war, yes, the use of clean weapons frees us from many of the restraints which now inhibit nuclear response to limited aggression. It is to our advantage to use nuclear weapons in limited engagements since we cannot afford conventional forces for this purpose. Clean weapons in any type of war confine damage to the areas of combat, and avoid injury to neutrals who are not concerned.

5. Why worry about radioactivity when the instantaneous effects are so terrible?

Because there will be survivors from the instantaneous effects within the areas of conflict and in other parts of the world. They need not die or suffer from radioactivity.

6. We cannot afford to share the principles of any nuclear weapon with our enemy.

Nuclear weapon security lost its basic value when Russia constructed deliverable atomic and thermonuclear weapons in quantity. Its value decreases further as Russian technology approaches our own. It now protects only refinements of design. Refinements are not essential to deterrents, either massive or graduated.

Russia now makes dirty megaton weapons. These pose the greatest threat to humanity from radiation. It would be to our advantage and to humanity's if Russia could make them clean, by our principles if necessary.

But suppose we decide to withhold such an offer. Russia might not demand that we share, because to do so would admit inferiority. If she showed no interest in clean weapons, we could castigate her before the world as willing to destroy mankind for her own ends - by using dirty nuclear weapons. An offer to share clean technology has advantages, and so does refusal. The question deserves careful study before decision.

7. We cannot test as well under ground as above.

Some testing under ground is better than none at all.

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**SECRET**

-7-

8. Why fight clean if Russia fights dirty?

Because of self-interest in reducing the total radioactive contamination of the earth. Also, for the moral, political, and military advantages which the possession of clean weapons confers upon the side which has them. If worse comes to worse, it is theoretically possible to adjust clean weapons to dirty.

9. All nuclear weapons are indiscriminate and immoral. Further development and test should stop.

Stopping tests will not reduce the threat already existing in stocks of dirty weapons waiting to be used. On the contrary, test cessation perpetuates the threat which might otherwise be reduced by clean weapons.

10. More nuclear tests mean continuation of the intolerable arms race.

Not if devoted to controlling the threat which already exists.



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ANNEX II

Present Justifications and Replies They Evoke from Opponents

1. We test to retain superiority.

What good is superiority when both sides already have enough nuclear weapons to destroy each other and the world, and can make more without further tests.

2. Past tests brought great progress. We must test for more progress.

Toward what end? More destruction? There is enough potential for destruction already.

3. We test to retain laboratories and scientists.

All nuclear weapons are indiscriminate and immoral. All test and development should stop.

4. We test to develop discriminating weapons.

This assumes military interest in discrimination rather than maximum destruction from nuclear weapons. There is no indication that this is so, and the military show little interest in clean weapons.

5. We test to develop defensive weapons.

What are they? Any weapon is defensive if so used.

6. Nuclear tests do little harm to mankind. They should continue that we may avoid nuclear war.

Scientists disagree regarding the danger of tests. And how do tests avoid nuclear war?



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LIST OF MATERIALS TO BE PHOTOCOPIED

(PLEASE TYPE OR PRINT)

Name of Researcher

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Collection and/or Series (e.g. OF; PPF; Mitchell Papers)	Box No.	File No. and/or Folder Title (e.g. 41-A; 62-B; 'Civil Rights)	Correspondents and/or Subject (e.g. Memo Smith to Jones)	Date of Docs.	Number of Pages
(arm Whitson) admin series	5	alc. 1957(2)	Strauss TO Pres	9/12/57	1 ✓
"	"	" " " "	Strauss TO Pres Plumbob.	8/7/57	2 ✓
"	"	" " " "	Strauss TO Pres Plumbob - HardTact	8/2/57	2 ✓
"	"	AEC 1957-(1)	Strauss TO GoodParker HardTact	11/23/57	1 ✓
"	"	" " " "	Strauss TO Pres HardTact	11/23/57	3 ✓
"	9	operation "Candor" (1)	DAE TO CO Jackson Draft Pres Speech	8/24/53	2 ✓
"	9	" " (1)	CO Jackson TO Pres Briefing "Candor" Draft	10/2/53	2 ✓
"	9	" " (2)	Draft speech "The Safety of the World"	undated	10 ✓
"	9	" " (2)	Draft Pres Speech on ATOMIC Energy	8/20/53	2 ✓
"	22	Jackson, W.H (2)	Memo TO Pres from W.H. Jackson Re d.wing	3/7/57	2 ✓
"	23	Killian, J.R. 1957(1)	memo TO Pres from JR Killian - Argus	11/3/58	5 ✓
"	23	Kissinger Book	EXTRACTS FROM "Nuclear Weapons"	undated	2 ✓
"	25	McElroy, Neil 1957-58-(3)	Memo TO Sec De from Twining - Nuc Testing	4/30/58	2 ✓