

*atomic file*

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May 3, 1946

SECRET

President Harry S. Truman  
The White House

Dear Mr. President:

Many months ago you asked me to serve on your committee to observe the tests of the atomic bomb against naval installations. Since I desired to be helpful to you, I consented to serve when your secretary, Mr. Connelly, informed me that you did not wish to excuse me. Sometime later I had an opportunity to learn a little more of the plans for the test from Admiral Blandy and his staff. These discussions confirmed and extended certain misgivings that I had about the soundness of the tests. I did not at that time wish to trouble you with my worries since it seemed possible that the test would be postponed or cancelled. Preparations for the test now appear to be progressing rapidly and I am concerned lest the nature of my misgivings make my participation on your committee not a help to you but an embarrassment.

It may be useful for me to outline very briefly what my misgivings are. I believe that they are shared, not unanimously but very widely, by the scientists who have had occasion to study these problems.

1. It has been stated that the tests would determine the effectiveness of atomic weapons in naval warfare. If an atomic bomb comes close enough to a ship, even a capital ship, it will sink it. The question of effectiveness is thus essentially the question of how close the hit must be. The tests planned for Bikini this summer do not include what is expected to be the most effective use of an atomic bomb against naval craft; namely, deep underwater detonation. Moreover, the attempts to simulate combat conditions in a single test must necessarily be crude, as also must be our estimates of the power of enemy atomic weapons. For these reasons, I believe that more useful information could be obtained by model tests and by calculations. These are difficult, but far less costly and, in my opinion, more

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likely to lead to useful insight than the tests contemplated. I believe that the cost of the tests as planned has been estimated at more than one hundred million dollars. For less than one per cent of this, one could obtain more useful information.

2. It has been suggested that the tests will provide scientific data of great interest. Much of this information, such as the effect of radiation on equipment, poison gases, rations, animals, etc., can far better be obtained by simple laboratory methods. Much of it could be obtained better in a test designed specifically for that purpose and not complicated by the naval arrangements.

In my opinion, some of the most important elements of scientific information will result from the study of new and presumably improved types of atomic weapons. This information will not be obtained in the tests as planned.

3. It has been suggested that we must be prepared for the possibility of atomic warfare, and must take the necessary steps in our own defense. Surely the overwhelming effectiveness of atomic weapons lies in their use for the bombardment of cities, and of centers of production and population. The problems involved in preparation for these dangers are, indeed, should we have to face them, most difficult. Much study and a vast effort would be required. In comparison with these issues, the detailed determination of the destructiveness of atomic weapons against naval craft would appear trivial.

4. Even if all components work correctly, the bombs which are scheduled for use in these tests have a chance of about one in fifteen of giving an ineffective explosion, that one might call a dud. Bombs have been designed which do not have this weakness, but it is not planned to use them. Surely this possibility should be born in mind in evaluating the effect on American and foreign opinion.

In what I have said above, I have left out of account, since I am not competent to evaluate it, the concern that has been expressed as to the appropriateness of a purely military test of atomic weapons, at a time when our plans for effectively eliminating them from national armaments are in their earliest beginnings.

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Even if the test is accomplished according to plan, even if the bomb goes off as it should, and the measurements which are contemplated are successfully made, many of my misgivings will still apply. For I do not think that naval applications are the important ones to test, nor that the test as it will be carried out will in fact be a good measure of naval applications, nor that the measurements which are to be made are the right measurements to make.

It could well be most undesirable for me to turn in, after the tests are completed, a report to this effect. You may believe, as I do, that under the circumstances I can better serve you if I am not a member of your committee than if I am, and may therefore wish to excuse me. It is my earnest desire to be helpful to you in every way possible.

Very sincerely,

JRO:mcl

J. R. Oppenheimer