

HEADQUARTERS UNIT (STATES AIR FORCE
Office of the Deputy Chief of Staff, Research & Technology

Date 27 Oct *Red*

MEMO FOR:

Gen he May

*This meeting (with
Dr Teller) was arranged
in compliance with your
request that I obtain
support from the "Scientific
Community" for our requirements
in atmospheric testing.*

*The results have been
used in the planning for
these tests.*

V.R.H.
VICTOR R. HAUGEN
Lt Col, USAF
Deputy Chief of Staff,
Research & Technology

- 1 AFMUR Coord
- 2 AFMDC/AF Coord
- 3 AFCCS Signature

AFUSA 71058

Clyde D. Gasser, Colonel, USAF

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Memorandum Report on Nuclear Testing by SAB Nuclear Panel and Dr. Teller

1. Dr. Johnson has been associated intimately with the SAB Nuclear Panel in its deliberations of the past few weeks in the area of nuclear testing that should be undertaken by this country.
2. In aid of developing a comprehensive position, the SAB Nuclear Panel met in conjunction with Dr. Teller at Lawrence Radiation Laboratory, Livermore, California on 23 October. As a result a memorandum report was written by the Panel on 25 October. Dr. Johnson has expressed considerable interest in this report.
3. Pursuant to the above, attached is a letter to Dr. Johnson, together with a copy of the memorandum report, for the Chief of Staff's signature.

RECOMMENDATION

4. Recommend that the Chief of Staff sign the attached letter.

ROSCOE C. WILSON
 Lt General, USAF
 Military Director
 Scientific Advisory Board
 Office of the Chief of Staff

Atch
 Ltr to Dr. Johnson from
 Chief of Staff, w/1 atch
 (memo report on nuclear
 testing)

DECLASSIFIED
 Per *DOE letter 5/16/44*
 By: *HC/LC; Date 5/16/44*

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 D&D R., Mar. 11, 1981
 Dec D., 8300.06, Mar. 21, 1985
 By: *HC/LC; Date 5/16/44*

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USAF Briefing for Dr. Teller on Nuclear Testing

Honorable Gerald W. Johnson
Assistant to the Secretary of
Defense (Atomic Energy)
Office of the Secretary of Defense

OCT 31 1961

Dear Dr. Johnson

I was sorry to hear that you were unable to meet with selected members of the Scientific Advisory Board Nuclear Panel and Dr. Teller on Monday, 23rd of October at Lawrence Radiation Laboratory, Livermore, California.

The special briefing that you gave to the Air Staff on Saturday, the 21st of October, preceding this meeting was appreciated and assisted us in presenting the most current information available to Dr. Teller.

In view of your expressed interest in the outcome of this meeting with Dr. Teller, I am forwarding herewith a copy of the Nuclear Panel memo report of 25 October for your information.

Sincerely yours

signed

CURTIS E. LEMAY
General, USAF
Chief of Staff

Atch
Cy of Nuclear Panel memo
rpt, 25 Oct 61

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For
DOE letter 5/10/64
By *MLC*; Date *5/10/64*

Coord Cy (AFCSA)
Office of Sig (AFCCS) ✓
AFCVC

DOE letter 5/10/64
By *MLC*; Date *5/10/64*

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Per
DUE letter 2/10/84
By: ALC; Date: 2/16/84

C O P Y

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Atomic Energy Act 1954DECLASSIFIED
DoD Ex. 11, 1951
DoD Dir. 5200.10, Ex. 11, 1953
By: ALC; Date: 2/16/84

AFCSA

25 October 1961

Priority of Nuclear Weapons Tests of Primary Interest to the
Air ForceLt General R. C. Wilson
Military Director
Scientific Advisory Board

1. As a result of continuing joint SAB Nuclear Panel/Air Staff actions over the past several weeks in subject area, a special group of the Nuclear Panel met on 23 October 1961 at the Lawrence Radiation Laboratory to review current directives and plans for atmospheric tests of nuclear warheads. Included in the group were:

Dr. Ernst H. Plesset (Chairman)
Dr. Edward Teller
Dr. John Foster
Dr. David T. Griggs

Dr. A. C. Haussmann
Dr. Arthur T. Biehl
Dr. Ernest Martinelli
Dr. Samuel T. Cohen

The group also re-examined the draft panel report of 6 October and the memorandum to General Putt from Dr. Plesset of 18 October (the latter having been forwarded to General LeMay by General Putt under date of 19 October). The above-cited draft report of 6 October and the memorandum of 18 October analyzed and treated various aspects of underground and atmospheric testing.

2. As a result of its 23 October deliberations, the group now strongly endorses the resumption of testing in the atmosphere. Special emphasis should be placed on a set of early experiments which is limited in number. It is even more important to make sure that testing in the atmosphere should continue. Space testing is advocated also in order to establish a new capability and to insure continued testing of devices which contribute considerable amounts of information.

3. At the present time only tests for the near future can be spelled out. For convenience, our recommendations are separated into four categories, i.e., proof tests, effects tests, systems tests, and development tests.

a. Proof Tests

(1) The group believes that it is urgent to conduct proof tests on XW-50, XW-56 and XW-59. These should be conducted within the next one to two months. Subsequently, Calliope should also be tested. While Calliope could be tested underground, it could be done in the atmosphere more expeditiously.

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(2) The group urges that the USAF be cautious in recommending such tests as MK-41, TX-43 and MK-26. While there can be little argument concerning the desirability of proof tests of these warheads, it should be clearly recognized that they are very likely to explode as expected and result in only a small amount of new information. Additionally, there is the risk that due to an uninformed public reaction to the attendant fallout, strong pressures might be exerted to stop atmospheric testing. In other words, performance of these tests is not quite so important; their desirability should be considered on a non-interference basis, since the political consequences could interfere with the continued test program.

b. Effects Tests

(1) Tests are required to obtain some understanding of the electromagnetic pulse (EMP) generated by a nuclear detonation. The yield for the surface or near-surface tests should probably be as large as tolerable.

(2) Tests of a complete missile silo in which an operational vehicle in an actual silo is subjected to hopefully a 1 MT detonation, in a soil that is realistic.

(3) AICBM tests, at as early a time as practicable, and to be followed by more carefully considered and instrumented tests. The tests should include observations of damage to reentry bodies, possibly by the piggy-back techniques used in the past.

(4) High altitude tests at 300 km and above. These should be conducted in the relatively near future to enable better understanding of blackout, communications interference, etc..

(5) In all the above effects tests, considerations should be given to the use of clean weapons wherever large yields are required.

c. Systems Tests

- (1) The following appear to us to deserve high priority:
- (a) Test of fully operational Atlas.
 - (b) Test of fully operational Nike Zeus.
 - (c) Operational wing test with live bomb.

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or for special effects, and diagnostics; others require atmospheric tests because of speed and yield.

f. Attainment of space test capability at the earliest practicable time is urged because:

(1) Any limitations inferred on testing will be different in space in regard to fallout, maximum yield and effects.

(2) Observation in space (i.e., vacuum) are different in kind and open up different avenues of inquiry.

(3) Nuclear explosions in space are likely to be important for possible operation in space.

5. USSR high-yield tests have reawakened interest in high-yield testing by the United States. High-yield weapons (50 MT to 1000 MT) should be reconsidered and re-evaluated for their possible military use.

6. It is the opinion of the group that the prosecution of the test program outlined above will not only answer adequately all questions raised in General Smith's memorandum of 30 September 1961 to General Putt, but will extend and enhance appreciably knowledge in the entire spectrum of nuclear weaponeering. Notwithstanding this opinion, the group stands ready to provide any further general or detailed information necessary.

7. In view of the above, you are urged to bring this report to the attention of both General LeMay and General Smith at the earliest practicable time.

CLYDE D. GASSER
Colonel, USAF
Secretary
Scientific Advisory Board
Office of the Chief of Staff

cc: Lt Gen D. L. Putt, USAF (Ret)
Dr. H. Guyford Stever
Dr. Ernst H. Plesset
Dr. L. S. Sheingold
Brig Gen R. L. Wassell
Dr. David Masson

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