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ATOMIC ENERGY COMMISSION

RESUME OF JOINT PROOF TEST COMMITTEE PLANNING PRINCIPLES

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Note by the Secretary

The attached report by the Director of Military Application is circulated by request of the Deputy General Manager for the information of the Commission.

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ATOMIC ENERGY COMMISSION

RESUME OF JOINT PROOF TEST COMMITTEE PLANNING  
PRINCIPLES FOR GREENHOUSE

Report by the Director of Military Application

1. The Joint Proof Test Committee is preparing a plan for GREENHOUSE to be submitted to the Joint Chiefs of Staff for approval, and, ultimately, to the Atomic Energy Commission for concurrence and/or comment. It is desired to provide the Commission with prior information of the principles upon which the plan is based, in order to facilitate and expedite Commission consideration and approval of the formal paper. It is now estimated that the formal plan may be received early in December 1949.

Scope of GREENHOUSE

[REDACTED]

These

are currently in the research stage at Los Alamos, and constitute fundamental elements in the Atomic Energy Commission's weapon research program.

[REDACTED]

3. The experiments have been grouped into eight major programs. These are:

Program 1 - Los Alamos Scientific Laboratory Experiments

Program 2 - Biomedical Program (Joint AEC-Dept. of Defense)

Program 3 - Department of Defense Structures

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- Program 4 - Applied Physics (Department of Defense)
- Program 5 - Radiological Experiments (Department of Defense)
- Program 6 - Materials (Department of Defense)
- Program 7 - Long Range Detection (Department of Defense)
- Program 8 - Airborne - Overpressures and Affects of Contamination on Jet Engines (Department of Defense)

#### Planning Principles for Scientific Test Programs

4. The basic plan followed in developing the scientific test programs has been that of affording the greatest possible assistance toward meeting AEC experimental requirements. Ancillary experiments desired by the Armed Forces will be undertaken on a non-interference basis. The AEC and the three Military Services have each submitted their programs to the Joint Proof Test Committee on which Dr. Graves sits as Scientific Director. Each program has been referred to appropriate panels, committees or individuals for review before tentative inclusion in the over-all program. For example, the Armed Forces Structures Program was thoroughly reviewed by a special panel under the Chairmanship of Dr. C.W. Lampson of Aberdeen Proving Ground. In addition, the Armed Forces Experimental Programs will be reviewed by the Research and Development Board, both from the technical standpoint and the availability of funds.

#### Los Alamos Experimental Program

5. The Los Alamos Experimental Program (Program 1) was presented to the General Advisory Committee on September 22 by Dr. Alvin C. Graves, the Scientific Director. Included are experiments to measure efficiency, yield and basic weapon functioning, in order to confirm theoretical predictions and make possible further definitive weapon design, along the same general lines as SANDSTONE.

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6. Los Alamos Laboratory also proposes to conduct an extensive investigative program in the field of phenomenology, consisting of free air overpressure measurements, measurements of the diffraction pattern of blast waves and of thermal radiation. This type investigation was not emphasized at SANDSTONE. It will be of special significance to the Armed Forces, as well, in studying weapon effects.

Armed Forces Program

7. The Armed Forces' experiments will be much more complete than those of SANDSTONE. The added time for planning for GREENHOUSE as well as the increased knowledge of Armed Forces information requirements are responsible in large part for the greater scope. The fundamental objective is to increase the Armed Forces' knowledge of the effects of atomic weapons, particularly in the fields of biomedicine and of blast and stress. Screening of the programs by the Joint Proof Test Committee included an examination of the feasibility, availability of funds, and the necessity for conducting these tests at Eniwetok, rather than in some laboratory in the continental United States.

Task Force Organization

8. The Joint Proof Test Committee paper will recommend a quadripartite organization for Joint Task Force Three. The Task Force Commander will have three Deputies: General Loper, USA, Deputy for Logistics and Support; Admiral Hill, USN, Deputy for Operations and Intelligence; and Dr. A.C. Graves, AEC, Deputy for Scientific Affairs. The staff organization will include a Controller, J-1, J-2, J-3 and J-4, with Mr. Bryan LaPlante, of the AEC, to be designated as the J-2. Colonel P.T. Preuss, USAF, has been selected as J-3, Captain J.R. Pahl, USN as J-4 and

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Colonel T.E. Barbour, USA as J-1. The Task Force Headquarters will perform planning and command functions with respect to the four operational Task Groups, which are the Scientific Task Group, the Army Task Group, the Navy Task Group and the Air Force Task Group.

9. The Scientific Task Group, headed by Dr. Graves, will include personnel from all the military services who are engaged in the various experimental programs. It will perform, and Dr. Graves will supervise, both Armed Forces and AEC experiments. The Army Task Group will be generally responsible for base services, physical security at the proving ground, etc. The Navy Task Group will be generally responsible for surface and under-surface security, local and logistic sea transport and will participate in aerial reconnaissance. The Air Task Group will be responsible for the drone operations, air transport, local (500 miles) aspects of Long Range Detection and inter-island air transport. Local weather service and control of air operations will also be a basic responsibility. The Long Range Detection Program will be accomplished under standard Air Force organization and command, except for the local control mentioned above in close liaison with the Task Force. The Commander, JTF-3, in addition to being responsible for the over-all test operation, will assume responsibility for both test and Proving Ground security from the time of departure of the Task Force for the forward area until its return.

#### Allocation of Costs

10. The proposed allocation of costs is based on mutual fiscal support, inasmuch as the operation will be of considerable benefit to the Armed Services, both from an experimental and a training standpoint. Generally, the Armed Forces and the AEC will each pay for their own experiments. The AEC provides the semi-

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permanent Proving Ground facilities with Corps of Engineers' assistance in construction of facilities on Eniwetok Island, while the Armed Forces assist in the over-all operation by provision of sea and air lift and by the issuance or loan of materials and equipment available from Military stocks.

Target Date for Shots

11. A target date for the first shot has been established for early March 1951, with subsequent shots at two-week intervals. These dates are based on SANDSTONE experience and a consideration of local meteorological conditions. Headquarters, JTF-3 and its Task Groups are planned to be fully operational at Eniwetok by February 1, 1951. Advanced elements will be staged forward after appropriate training in the United States. The Army Engineers Construction Unit is the earliest unit required, and should be in place shortly after January 1, 1950.

Radiological Safety

12. Radiological safety will be a command responsibility at all levels. The Task Force Commander will hold each Task Group Commander responsible for the radiological safety of his Task Group in accordance with provisions of Task Force instructions. Assisting the Task Force Commander will be a Radiological Safety Section, under J-3 of his staff. This section will inform the Commander as to radiological hazards, will prepare radiological safety regulations and instructions and will coordinate areas of responsibility for radiological safety among the Task Groups. Each Task Group will have a Radiological Safety Unit.

13. The Commander of the Scientific Task Group (Dr. Graves) will have the responsibility for radiological safety on all islands except Japtain, Parry, and Eniwetok until relieved of that responsibility by the Task Force Commander.

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Summary

14. With one possible exception, the principles upon which the operational plan are based do not appear to be controversial from the AEC's viewpoint. That exception would be the designation of Dr. Alvin C. Graves as the Commission representative in addition to his designation as Scientific Director. This problem will be reviewed separately.

15. The Allocation of Costs Agreement, if approved in its present draft, will be more favorable to the AEC than was that for SANDSTONE. The total costs of this test, however, will be greater both to the AEC and to the Armed Forces than obtained for SANDSTONE because of the greater experimental program and the need to provide certain facilities which were available from wartime construction for SANDSTONE but are no longer in existence.

16. The Tentative Task Force Organization which contemplates a rather complete integration of the four participating activities was presented for the information of the Commission in AEC 153/2 dated August 26, 1949.

17. The Los Alamos Scientific Test Program is presently being formulated. The details thereof will be presented to the Commission at a later date.

18. The Armed Forces Test Programs are being reviewed by the Joint Proof Test Committee for feasibility, desirability, and non-interference with the AEC program. They will receive further review by the Research and Development Board. After this review, the details of these programs will be submitted for the information of the Commission.

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19. [REDACTED]

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[REDACTED] An early test is currently under consideration in the Department of Defense.

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