

MINUTES OF MEETING OF THE PRESIDENT'S EVALUATION COMMISSION FOR THE ATOMIC BOMB TESTS AND THE STAFF OF COMMANDER JOINT TASK FORCE ONE HELD IN NAVY DEPARTMENT, WASHINGTON D. C. AT 0930 ON SATURDAY, 30 MARCH 1946.

PRESENT:

The President's Evaluation Commission.	- Representative Walter G. Andrews Dr. Karl T. Compton Senator Carl A. Hatch Representative Andrew J. May Mr. W. S. Newell Dr. J. R. Oppenheimer Senator Leverett Saltonstall Mr. Fred Searles, Jr.
Joint Task Force ONE	- Vice. Admiral W. H. P. Blandy Commo. J. A. Snackenber Rear Adm. W. S. Parsons Maj. Gen. A. L. McAuliffe Rear Adm. T. A. Solberg Rear Adm. F. J. Lowry Brig. Gen. T. S. Power Brig. Gen., T. J. Betts Dr. R. A. Sawyer Dr. J. Von Neumann Dr. D. Z. Beckler Col. J. D. Frederick Capt. R. S. Quackenbush Col. D. H. Blakelock Capt. L. A. Kniskern Capt. C. H. Lyman Capt. H. Rivero Col. W. D. Ganey Col. H. B. Smith Capt. R. Brodie Capt. H. R. Carson Capt. A. A. Cumberledge Capt. G. M. Lyon Capt. P. Foley Capt. K. M. Gentry
Manhattan Engineer Dist.	- Maj. Gen. L. R. Groves Col. H. C. Gee Lt. Col. J. A. Derry

THE DIVISION OF CLASSIFICATION, U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION HAS DETERMINED THAT THIS DOCUMENT CONTAINS NO RESTRICTED DATA OR FORMERLY RESTRICTED DATA. ERDA HAS NO OBJECTION TO ITS DECLASSIFICATION.

Good with navy
J. H. Stutz
REVIEWED BY _____
DATE 12/8/76

1. Adm. Blandy opened the meeting by stating that he had suggested the meeting in order to acquaint the President's Evaluation Commission with the plans and preparations for the test and to answer any questions that the Commission might desire to ask. He suggested that a chairman be appointed so that he could address correspondence for the Commission to one person. He also stated that he would appoint one or more officers to act as secretaries to the Commission if they so desire.

2. Adm. Blandy described the origin of the atomic bomb tests, which began with a request from Gen. Arnold of the Army Air Forces to the Joint Chiefs of Staff suggesting that the battleship NAGATO of the Japanese Navy be used as target for atomic bomb tests by the Air Force; which request was closely followed by a proposal from Fleet Admiral King to the effect that a number of Naval vessels be used in a test of atomic bombs.

3. Adm. Blandy then read the directive to him from the Joint Chiefs of Staff which was issued on 11 January and contained the general purposes and requirements of the test, and which authorized him to deal directly with the various military and naval agencies involved in the test.

4. Adm. Blandy then proceeded to describe the organization of the Joint Task Force staff and gave the duties of the various members of the staff, pointing out the participation of both Navy and Army members as well as civilians in the higher echelons. He then went over the chart showing the organization of the Task Force into Task Groups and explained the function of each of these Task Groups.

5. Following this, Adm. Blandy mentioned the reason for placing Army equipment on the decks of the ships under test and stated that the great distance of the detonation from the nearest shore made it desirable that the Army ground equipment be exposed on the ships rather than on shore.

6. He then discussed the function of the "drones" to be used in the operation. Both Army and Navy "drones" will be used to obtain samples of the air after the explosion to assist in determining measurement of bomb efficiency. He also mentioned the plans for use of a sea plane unit and a destroyer squadron to follow the contaminated area of water after each test.

7. Adm. Blandy explained that no personnel will be in the Bikini Atoll at the time of the test, the natives of Bikini having been evacuated to Rongerik prior to the test. He then went over the organization of the technical staff and mentioned the duties of the Technical Director, Dr. Sawyer, the Director of Ship Material, Rear Adm. T. A. Solberg, the Safety Advisor, Capt. Lyon, and the Radiological Safety Advisor, Col. Warren.

8. Adm. Blandy listed the factors which resulted in the selection of Bikini for the tests as follows:

- 1) Its remoteness from inhabited areas,
- 2) Freedom from storms,
- 3) Anchorage of sufficient size,
- 4) Favorable wind and ocean current conditions.

He showed the location of Bikini in the Marshalls area and indicated the distances from various important bases. He stated that the island of Ujelang is uninhabited, and that Eniwetok, which is to the west of Bikini will have to be temporarily evacuated for the tests in view of possibility of contamination either from air-or-water-carried radioactivity. He then gave a list of the ships

selected as targets for the tests as follows: 5 battleships, 4 cruisers, 2 carriers, 17 destroyers, 8 submarines, 25 merchant type vessels, 1 concrete drydock, 2 concrete barges, 25 LCT's, 6 LCI's, 6 LST's, 12 small boats. In answer to a question from Mr. Searles as to how the total number had been determined, he stated that the Joint Chiefs of Staff had directed the use of representative ships of various types and sufficient numbers to give the proper gradation of damage. Additional ships are used to carry instruments.

9. Adm. Blandy then read the plan for the operation which he had submitted to the Joint Chiefs of Staff and stated that all major features had been approved by the Joint Chiefs of Staff, and that he had consulted both the armed services and the scientists as to these major features before submitting the plan for approval. The Fish and Wild Life Service of the Department of Interior has also given its approval to the location for the tests.

10. He stated that animals are being used on some of the ships to test biological effects of the bomb and that although protests had been received on the use of animals, the decision has been made to use them because scientists have insisted that this biological information cannot be obtained by instruments alone. This data is of great importance to the military medical personnel in planning for protection of our men and will also furnish information of value to scientists in general.

11. Adm. Blandy went over the schedule of the tests as at present set up, which includes the target date for the first test (air drop from a B-29) as 1 July, and the second test (with the bomb either on surface or under water) to take place about three weeks after the first test, the exact date depending on the results of the first test. He stated that the underwater shot for the second test will give greater effect on ships. He then showed a chart giving weather data for the area, which indicates that seven days in July and eight days in August will be suitable for air operations, seven days in July and twelve days in August are questionable and the others will be unsatisfactory.

12. Representative Andrews inquired as to the plans for the Commission while they wait for the second test and Adm. Blandy stated that there will be no time to return the ships to the mainland between tests but that arrangements will be made for a brief cruise to some of the more interesting places in the Marshalls-Marianas area, such as Tarawa, Guam, Saipan, etc.

13. Adm. Blandy then explained the reasons why the third or deep water test could not be held this year, namely, the great difficulty in completing the proper bathysphere design in time for the test. He also mentioned the great latitude given to civilian scientists in the planning and execution of the tests and stated that the survey vessel party now in the area includes hydrographers, oceanographers, biologists and geologists who are out there obtaining important scientific information.

Adm. Blandy mentioned the participation of foreigners as observers in the tests and stated that invitations for the foreign observers are now in the hands of the State Department. These observers include two representatives from each of the nations who are members of the UNO Atomic Energy Commission and in addition eight additional from England and four from Canada. He stated also that there will be press representatives, and a number of scientists who are being selected by Dr. Jewett of the National Academy of Science.

15. Adm. Blandy then went over the target array for the air burst mentioned the security classification of the exact array as being top secret, as are also the details of measurements and of damage.

16. Senator Hatch requested that the Commission be told what information is secret and Adm. Blandy stated that the exact bombing altitude, exact height of burst, the exact depth for the second test and the details of the bomb are highly secret.

17. In going over the array, Adm. Blandy explained the reasons why ships near the center of the array are very close together, which are 1) the fact that the blast pressure drops off rather quickly with distance and 2) that it is desired to allow for possible bombing errors, and insure that the bomb will burst near at least one large ship. He stated that this array had been approved by the Joint Chiefs of Staff.

18. He then described the distribution of fuel and ammunition in the various ships and stated that an attempt was made to represent practical war conditions at an anchorage. He stated that burning oil would be the worst hazard for secondary fires. The amount of oil in the ships near the center has been decreased, although they have a high percentage of the normal ammunition loading.

19. Representative May inquired whether the explosion of this ammunition would cause confusion in the results. Adm. Blandy stated that he felt enough information will be obtained under the proposed conditions and that war experience such as the explosion of the Mt. Hood indicated that explosions in one ship are not too damaging to other ships in the vicinity. The hazard of burning fuel in the water is serious and for this reason the ships to windward have been loaded with a lesser amount of fuel oil than those to leeward.

20. Adm. Blandy then went over the target array for the second shot and stated that although final approval had not been given by the Joint Chiefs of Staff they had given tentative approval and that the array was subject to revision after the first test. He stated that he intends to submit a plan to the Joint Chiefs of Staff for approval in case that it is necessary to eliminate the air drop test. Dr. Compton inquired if minor changes could be made after Test "A" (air drop) and Adm. Blandy answered in the affirmative. Senator Saltonstall inquired as to the use of various orientations of the various ships and Adm. Blandy replied that an attempt was made, within the limitation of practical seamanship, to obtain both bow on and beam on presentation of the various ships although this is not practicable among the ships that are very close in because of the difficulty in planting the necessary moorings, the effect is

obtained in some cases by having two lines of the same type on different bearing from the point of detonation. Senator Saltonstall also inquired as to why not have some ships with no ammunition. Adm. Blandy stated this would be desirable if we had enough ships of each type to give a good comparison but that the array has had to be a compromise between realism and technical factors and "no ammunition" condition is approximated in the case of some ships which have a minimum amount on board.

21. Adm. Blandy then proceeded to state the information which the services desire to obtain from these tests. He stated that the material bureaus in the Navy are interested in obtaining information to assist them in designing ships and equipment, the tacticians are interested in information regarding the effect on naval formations and the strategists want to know the effect of the bombs on the disposition of bases and fleets. The Army Air Forces wish to know the value of naval vessels as targets under various conditions and the Army Ground Forces want to know the effect of the bomb on the various types of equipment.

22. Representative May inquired if there were enough Japanese ships to use as targets for the test. Adm. Blandy stated that very few ships were serviceable, that the Negato and Sakawa are being used and that two available submarines of modern construction are being saved for other studies and are not being used in the atomic bomb tests.

23. Senator Hatch inquired whether Adm. Blandy had discussed the plan with the appropriate Committees of the House and Senate and he suggested that this should be done since there exists some misunderstanding as to the purposes of the test. Adm. Blandy stated he had discussed the plans with the House and Senate Naval Affairs Committees and he said he wished to emphasize the tests are a technical test and not a demonstration of power.

24. Adm. Blandy then explained the need for a rehearsal and briefly described the plan for evacuation of the lagoon before the test. He also stated that the MT. MCKINLEY and one instrumentation ship would be about ten miles from the lagoon during the test and that all other ships would be no closer than twenty miles.

25. Adm. Parsons then discussed the technical aspects of the operation and gave as the item of highest priority the measurement of the bomb as a nuclear fission bomb. He stated that there are many unknown factors regarding this type of bomb and it is important that exact information regarding its efficiency be determined. He then stated that as an item of secondary priority is the determination of the explosive efficiency of the bomb as a blast engine. He stated that the effect on ships cannot be predicted without actually holding the test. Dr. Oppenheimer inquired whether the information could not be obtained from model tests. Adm. Parsons and Capt. Kniskern stated that the complicated structure and the stiffness of the ships were factors which could not be properly duplicated in models. Dr. Oppenheimer suggested that the reliability of model tests could be estimated after the atomic bomb tests. Adm. Parson stressed the fact that the ships must be treated as deformable bodies rather than rigid bodies as is the practice with model tests

and that there is great difficulty in scaling all the various factors affecting the results. Adm. Solberg agreed that we need the results of a full scale test before model tests can be used.

26. Adm. Parsons described the plan for exposing equipment including tanks, airplanes, etc. on the target ships and also electronic recording instruments, graphic recording instruments, and simple mechanical instruments such as oil drums which will give good measurements of pressure because of the long duration of the pressure pulse.

27. Adm. Solberg went over the problems of the Director of Ship Material including the preparation of the ships, insuring proper water tight integrity, the coordination of the test requirements of Army and Navy activities, the problem of inspection after the test and the complex instrumentation installation, including instrument design and training of personnel. He stated that his organization is ready to go ahead with the tests as planned.

28. Adm. Parsons went on to explain that the atomic bomb differs from conventional explosives not only in the order of magnitude of the heat energy but also in the radioactivity effects. In view of the great heat intensity any plan to test ships as inert targets without fuel or ammunition would be artificial since the behavior of the ships under normal conditions of loading when subjected to the extreme pressure and heat would be different from that of ships not carrying that load.

29. Dr. Sawyer briefly discussed the instrumentation and stated that the details of instrumentation, the exact disposition of instruments and the data of the instruments will be highly classified. He stated that details are described in the instrumentation annex which will be available to the Commission. He mentioned the remote measurements that will be made to determine what effects of the atomic bomb can be measured at great distances from the explosion and also mentioned the other types of measurements to be made at the location of the test. He also stated that it is difficult to predict the effects of the explosion from the brief data on the earlier bombs and also that no one knows how much under water shock is required to destroy a ship.

30. Capt. Lyon, the Safety Advisor, described briefly the plans for insuring safety both from radiological danger and from more conventional dangers, such as fire, fumes and explosions. He went over the general plan for safety reconnaissance and monitoring of hazardous areas before approaching the target ships after the tests, and the continuance of monitoring as long as hazards exist in the area, including the tracing of the contaminated water and air in the vicinity of the blast. He stated that special glasses will be required to be worn by all observers and that these glasses will be provided in adequate numbers.

31. Gen. Groves then mentioned that he advocated the presence of large quantities of ammunition and fuel on board ships but

that he had agreed to reduce the amount from full because of the danger of destroying all evidence due to secondary damage, inasmuch as no men will be on board the target ships to fight fires during the test. He stated that the distant measurements to be made were to be considered very secret as would also all data regarding the bombs. He also stated the effect on the Manhattan Engineering District of the postponement of the test and emphasized that if the test is again postponed, it will be impossible to carry it out due to the fact that he will not be able to furnish the proper scientific assistance.

32. Adm. Blandy said that he would arrange air transportation for those members of the Commission requiring it and stated that it will not be necessary for the Committee to leave the mainland earlier than the 25th of June if they go by air. Senator Hatch requested Adm. Blandy to work out a schedule for the Commission to include dates of departure and return to the U. S.

33. Representative Andrews stated that there is opposition to the ideas of the tests in certain quarters and that it would seem advisable to publicize the tests, and suggest that perhaps the Joint Chiefs of Staff should make some release indicating the importance of the test.

34. Senator Hatch stated that he has been informed by Senator Walsh that unless the Joint Chiefs of Staff feel there is an overwhelming reason for holding the tests, he (Senator Walsh) would favor calling them off and he stated that so far, no such overwhelming reason had been advanced.

35. Representative Andrews asked Adm. Blandy if he could make a release in behalf of the Joint Chiefs of Staff and Adm. Blandy stated he had already made several releases in behalf of the Joint Chiefs of Staff stating what the tests would consist of and what would be gained by them.

36. Mr. Newell stated that from the shipbuilders' point of view, there are overwhelming reasons why the tests should be held. He stated that it would be impossible to design ships against atomic warfare without the kind of knowledge expected to be obtained from the test.

37. Representative Andrews stated that the Joint Chiefs of Staff should tell the president pro-tempore of the Senate and the speaker of the House the overwhelming reason for holding the tests. Senator Hatch stated that since there is so much wrong information out on what can be obtained from the tests, there should be some positive explanation given to the public.

38. Dr. Compton stated that evidence at Hiroshima and Nagasaki show physical effects which could not be anticipated from the results of the New Mexico experiment, also that the explosion under water will produce different effects from those over land and that the bomb is still experimental.

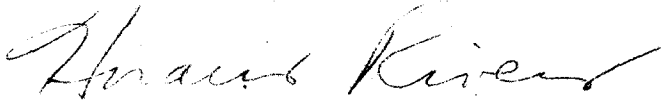
39. Gen. Groves stated that from the Army standpoint, it would be important to have the Joint Chiefs of Staff issue a statement along the lines suggested by Representative Andrews. Gen. Groves also stated that he understood the fact that we are using all those ships as targets will not prevent us from obtaining data applicable to design of new ships. Adm. Solberg confirmed this view and stated that certain caisson tests held at Norfolk showed that new design can be improved from properly instrumented experiments.

40. Col. Blakelock gave a brief resume of the shore construction activities in Bikini Atoll. Capt. Quackenbush then gave a summary of the photographic program including photographs by Army and Navy aircraft, both movie and still, also photographs from towers on the atoll and photographs from the ships. He stated that the photographic program involves about 20 airplanes and 500 photographers.

41. Adm. Blandy then stated the effect that postponement would have on Navy personnel. He stated that 1 September is the deadline for demobilization of the Navy and that personnel used after that date must volunteer if they were eligible for release. He also stated that the target ships being used, except for the five heavy hull submarines and the INDEPENDENCE, were already slated for disposal.

42. The President's Evaluation Commission and Joint Task Force staff then proceeded to the air operations war room for briefing on the air operations plan. First, Gen. McAuliff described the participation of the Army ground forces whose part is to display representative Army equipment and to analyze the effect of the bomb on it.

43. Gen. Power, assisted by Col Ganey and Capt. Foley went over the complete plan of air operations for "A" Day (the day of the first test) and stated that except for the presence of the bombing planes, the air plan for the second test would be essentially the same.


Horacio Rivero,
Captain, USN.