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March 24, 1945

PUBLICLY RELEASABLE
LAW Classification Group
7/23/94

Oppenheimer
322
7/7/86
Trinity

To: All Concerned with Project TR
From: K. T. Bainbridge

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J. H. Williams has suggested that Project Y personnel having responsibilities with respect to the Trinity project should be circularized on all information which may affect the planning or performance of their work. This seems better than frequent meetings because of the large amount of travel ahead and the diverse duties of a considerable group of people. The individuals on the following list will be sent information which may affect their programs, and the attached sheets summarize the agreements and arrangements reached in the past three weeks since the formation of the project. The individuals on the list are responsible for the dissemination of information on travel and security regulations and other matters of interest to their men who will be going to Trinity. Some of you have already received memoranda relating to the subjects covered below, but to insure complete coverage to those omitted on earlier lists the information is included.

The Trinity Project should be abbreviated "TR".

DISTRIBUTION LIST

- H. L. Anderson
- K. T. Bainbridge
- Comdr. N. E. Bradbury
- Dr. L. H. Hempelmann
- S. Kershaw
- G. B. Kistiakowsky
- J. E. Mack
- J. H. Manley
- W. G. Marley
- E. W. Marlowe
- D. P. Mitchell
- P. B. Moon
- J. R. Oppenheimer
- W. G. Penney
- Ens. G. T. Reynolds
- H. T. Richards
- E. Segre
- Lt. R. A. Taylor
- R. J. Van Gemert
- B. Waldman
- V. Weisskopf
- J. H. Williams
- R. R. Wilson
- Meteorologist

FINAL DETERMINATION
UNCLASSIFIED
L. M. Redman
OCT 24, 1980
OK (FAB) 7/7/86

CLASSIFICATION CANCELLED

Per Memo dated 6/29/77
By Jos Redman / Tony Quinn

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1. AIR SHOT DECISION - According to present plans the gadget test shot will be made with the gadget mounted on a 100 ft. steel tower. The center of gravity of the gadget will be 103 ft. above the ground. The scheduled height for the 100 T shot is 28 ft. above the ground. Jumbo will be erected at a point bisecting the angle N 10,000 - 0 - W 10,000 at a point 800 yds. radially from 0. Dr. Oppenheimer's decision giving the air shot higher priority is given in enclosure No. 1 attached.

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2. 100 FT. TOWER - The specifications of the 100 ft. tower are given in enclosure No. 2. The actual purchase of this tower is not firm until we hear from the New York office on or before March 30. Detailed drawings and stress analyses of the tower are given on a set of blueprints available in Room A-202 and may be inspected if desired.

3. 100 T SHOT - The 100 T shot is scheduled for May 5 with April 30 a desirable date for all installations to be completed so that rehearsal runs can be made on May 1, 2, 3 and 4. The actual date of firing is dependent upon satisfactory wind conditions, but from information available on the weather at the site it is not expected that one will have to wait for more than four days for a satisfactory wind direction and velocity during May. The 100 T pile will be an octagonal cylinder--i.e., octagonal sides and flat top and bottom surfaces. The 100 T pile will be detonated from six points. The shape of the pile and use of multiple detonation points should insure uniform blast conditions at quite small radii and this scheme is being carried out at the recommendation of Penney and Marley. Details of the 100 T set-up are given in enclosure No. 3. The tower will be located 800 yds. south from O on the line N 10,000 - O extended.

4. PROJECT TR RESPONSIBILITIES ON 100 T SHOT - The Project TR responsibilities on the 100 T shot are listed in enclosure No. 4.

5. ORGANIZATION CHART - The organization chart as of March 24 is given in enclosure No. 5.

6. ORGANIZATION AND SERVICES

A. TRAVEL REGULATIONS - Regulations for civilian personnel are given in enclosure No. 6-A.

S.E.D. personnel are allowed a per diem allowance (\$5.00) while en route between A and Project 36. They do not receive any per diem allowance at Trinity. This has been checked with Army rules and regulations through the kindness of Capt. Smith.

Officers on temporary assignment to Trinity from Project Y receive \$7.00 per diem en route and \$5.00 per diem in residence at Trinity.

Usual transit time to Trinity, less than nine hours, equals 1/4 day.

B. SECURITY REGULATIONS - The security regulations mutually agreed upon by Major de Silva, Lt. Bush, Lt. Taylor, K. T. Bainbridge and J. H. Williams are given in enclosure No. 6-B and should be read carefully by all of your men prior to going to Trinity.

C. PROCUREMENT OF EQUIPMENT - Information relative to procurement has been sent out by J. H. Williams March 20 to all but a few of the above list. It is included as enclosure No. 6-C to complete the distribution.

D. PHOTOGRAPHIC SERVICES AT TRINITY - J. E. Mack (G-11) has a photographic laboratory at the site under T/5 Ernest D. Wallis, and details of this arrangement are included in enclosure No. 6-D.

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F. SITING, FIRING, RESCUE CONTROL DEVICES, PHONE COMMUNICATIONS -

E. W. Marlowe of J. H. Williams' office is handling devices of this nature as indicated in enclosure No. 6-E. A detailed summary of the requirements of each group for the May 5 test should be ready for Mr. Marlowe not later than April 1. Mr. Marlowe or someone appointed by him and Mr. Williams will handle the telephone layout which, it is planned, will allow communication from preamp stations to the main shelters and from one main shelter to another or to the base camp.

F. TRANSPORTATION AND SHIPPING -

Transportation to and from Trinity should be requested from J. H. Williams' office. Wherever possible groups should cooperate in their trips as the transportation is in a poor state because of the large number of vehicles in for repair. More vehicles will have to be obtained, but our request should be documented and any difficulties should be reported to J. H. Williams.

Shipping is handled through Harry Allen's office. No material may be taken in personnel vehicles without giving Allen and Williams a complete detailed list. Mr. Mitchell has asked that we avoid carrying anything to Trinity in group vehicles.

G. SPECIAL SHELTER BUILDINGS -

R. W. Carlson (X-2), Room A-203, and Ens. G. T. Reynolds (X-5), Room B-102, will continue as consultants on the design of special shelter buildings for equipment or personnel. Their help should not be sought until after detailed plans of the interior arrangements of a shelter or instrument box are completed with a layout of the dimensions, access openings, etc. All requests for construction go to J. H. Williams.

H. LABORATORY BUILDINGS AT TRINITY -

The west McDonald ranch house, No. 1, has been assigned to Group G-11 for print filing, print reading and laboratory work. The eastern ranch house, No. 2, will have one room for headquarters with detailed maps and air mosaics mounted for easy reference, and two steel files for safeguarding of classified reports. The southwestern base camp building is available for laboratory use for two-thirds of its length. The details of distribution of space for the latter two buildings can only be settled if group leaders will submit their estimated requirements for working space, if any, at the base camp. Requests should be submitted to J. H. Williams with a copy to Bainbridge not later than March 31. I hope that most of this can be taken care of at \$ 10,000, W 10,000, N 10,000 and the hutments which will be located near the main shelter buildings. These hutments should be in place not later than March 26.

I. RADIO COMMUNICATIONS -

There are available a total of 20 25-watt FM Motorola transmitters and associated receivers and three 50-watt transmitting stations. One 50-watt and six 25-watt stations are used by the M.P. detachment. These are on frequency 38.860 megacycles with call letters WZZZ-1,2.....23 inclusive. All 23 of these radios are project property. Their major use will be to coordinate the work of Dr. Hempelmann's rough riders and M.P.'s after the gadget shot, and for communication outside the ABPO area on siting trips. Phone communication should be used for all testing work in setting up preamps, gauges, etc.

There are two SCR-299 450-watt transmitters in the band 4-8 megacycles. These are for ground-to-plane communication and for long distance ground-to-ground communication. No call letters or exact frequency band have yet been authorized on these. Major de Silva has been requested to get authorization for

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the use of these transmitters. Either or both 5.440 and 7.235 megacycles will allow ground-to-plane communication. The SCR-299 radios will only be used by B. Waldman, Lt. C. D. Curtis, J. H. Williams, K. Bainbridge or operators appointed and agreed to by them. There are two S-29 Sky Traveller battery-operated receivers which cover the SCR-299 range and an additional six S-39 battery-operated receivers are on order. These are for receiving only at remote points to obtain advance warning of shot firing.

There are two SCR-511 Walkie-Talkie transceivers for use particularly in exploratory work, site hunting, etc. Their range is limited to 5 or 6 miles at best.

R. F. Bacher and W. Higinbotham have agreed to assign one man to take care of the radio communication equipment and the installation of the remaining FM radios.

J. ASSISTANCE IN TESTS REQUIRING H.E. SHOTS - Comdr. N. E. Bradbury (Group X-6) has very generously agreed to supply assistance on explosives for both the Trinity test and prior experimental work. All requests for such assistance should be addressed to Comdr. Bradbury with copies to Lt. W. F. Schaffer, J. H. Williams and K. Bainbridge. (See enclosure No. 6-J.)

K. COMBAT SUITS - We shall not be allowed to use combat suits for work at Trinity in spite of the primitive conditions there. Mr. Mitchell is trying to see if he can get ski pants and parkas as substitutes. All those who have not yet returned their combat suits should turn them in to S stock. I will keep you advised of future developments.

L. MAPS - Complete sets of maps, the best available of the Trinity region, have been requested through Capt. Davalos' office, and one set each will be issued to the meteorology group, R. R. Wilson, J. E. Mack, J. H. Williams, J. H. Manley, B. Waldman and two copies to Dr. Hempelmann. One set will be mounted in the headquarters office in ranch building No. 2. In addition there are good air mosaics of the region on hand which will be mounted in the headquarters office, and a special 6-inches-to-the-mile strip which includes N 10,000, S 10,000 and runs nearly as far west as W 10,000. The air navigation map for the region will be available too, which gives the position of radio beacons and restricted areas for the southern part of the state. At present detailed maps of the region are available in Lt. Bush's office. All the maps should be well taken care of and should be considered classified information. A detailed layout of all the roads and the survey of the main stations is available in Lt. Bush's office, Capt. Davalos' office or Room A-202.

M. WEATHER INFORMATION - General weather information for the region is given in Report No. 826, classified "SECRET" - "A Climatic Discussion of the Central Plateau Region of New Mexico." Mrs. Anderson will have this available in Room A-202 where it can be read. The more detailed information on wind directions at different levels, ceiling heights, distribution frequency of thunder storms, distribution frequency of clouds, etc., is given in copy No. 1147 of the Airway Meteorological Atlas for the U.S. However, this just summarizes weather data up to 1941 and does not include more recent and better information obtained from new stations set up at Army air fields during the past few years. The latter information will become available later when the meteorological group has started work. The atlas is available for reference in Room A-202.

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M. MAIL - At present Lt. R. A. Taylor will take care of forwarding the mail between Y and Trinity. Letters for the personnel at Trinity should be brought to his office and will be sent to Trinity either by project personnel who are travelling there or with a member of Lt. Bush's detachment on the regular schedule of trips back and forth.

O. GENERAL SET-UP AT TRINITY - The basic general description of facilities and plans for Trinity vehicles and equipment is given in a memorandum classified "SECRET" which will be available from Mrs. Anderson in Room A-202.

P. SHOP WORK - E. Long has asked for a representative of Project TR to whom he can go on questions of shop priority, design changes, etc. The representative will be K. Bainbridge and, in his absence, J. H. Williams.

Q. MATERIAL ORDERED FOR PROJECT TR - Harry Allen has circularized two lists of material ordered for TR. List A was reviewed by Manley, Wilson and Bainbridge and assignments made for equipment. The only correction is that the three mounted precision forks are for the CCR-584 equipment and do not represent open stock. List A covers material ordered and received; List B covers material ordered but not yet received. The Blaw-Knox tower due date should be 6-4-45 with the absolute latest date 6-15-45.

Attachments

K. T. BAINBRIDGE

- No.1 - 1 page - SECRET
- No.2 - 1 page - CONF.
- No.3 - 2 page - CONF.
- No.4 - 1 page - CONF.
- No.5 - 1 page - SECRET
- No.6-A - 1 page - CONF.
- No.6-B - 2 page - CONF.
- No.6-C - 1 page - CONF.
- No.6-D - 3 page - CONF.
- No.6-E - 1 page - not classified
- No. 6-J- 1 page - CONF.

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