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~~HEADQUARTERS, ARMY COMMAND~~
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ATDEV-1 0009 (8)

18080 NOV 1955

SUBJECT: Amendment to Proposed Project Regarding Blast Injury Evaluation (U)

TO: Chief of Research and Development
Department of the Army
Washington 25, D. C.

18080

1. References:

a. Letter, ATDEV-1 0009(8), Headquarters CONARC to Chief of Research and Development, Department of the Army, 8 September 1955, subject:

"Requirements for Information on Primary and Secondary Biological Effects of Air Blast to Army Troops from Nuclear Weapons (U)," recommending laboratory and field tests on dummies and animals under simulated tactical conditions.

b. Final Report of Operations, Exercise Desert Rock VI (U), Headquarters Exercise Desert Rock VI, 23 May 1955, of which Section IX deals with the Volunteer Officer Program.

2. In reference 1a, a requirement has been established for a thorough investigation of the mechanisms of blast injury to individuals for the purpose of more accurate estimation of casualties, determination of safe distances, and evaluation of field fortifications and protective measures. Current injury criteria are based largely on assumptions and hypotheses, rather than on experimental evidence, and cannot be accepted with confidence.

3. Injury criteria established by tests on dummies and animals, as proposed in reference 1a, should be validated by human tests to insure their reliability. Volunteers in foxholes and prone on the surface of the ground can be exposed to low levels of blast and thermal effects until thresholds of intolerability are ascertained. (Suitable choice of yields would eliminate excessive nuclear radiation exposure.) Volunteer participation has been tried successfully in several Desert Rock Exercises, as described in reference 1b. However, the objectives in Desert Rock were training ones and the participants were at relatively safe distances. All the volunteers in Desert Rock VI concurred in the recommendation that this program be continued and that the participants be closer to ground zero in the future. It is believed that human tests can be integrated into the program proposed in reference 1a and conducted with negligible expense, preparation time, and interference with scheduled test programs.

4. It is realized that the lateness of this proposal and other problems may make it impossible to include a volunteer program in Operation REDWING.

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ATDEV-1 100.9 (S)

SUBJECT: Amendment to Proposed Project Regarding Blast Injury Evaluation (U)

However, since inherent dangers will necessitate a gradual approach to the threshold of intolerability of effects, it is probable that a program extending over several tests will ensue. Therefore it is felt that Army interest in such a program should be brought to the attention of the Armed Forces Special Weapons Project at this time for such action as may be feasible in Operation REDWING. Detailed recommendations for volunteer human participation in future atomic tests will be submitted by this headquarters.

5. It is recommended that:

a. The interest of the Army in a volunteer program to determine injury criteria be expressed to the Armed Forces Special Weapons Project for such action as may be feasible in Operation REDWING.

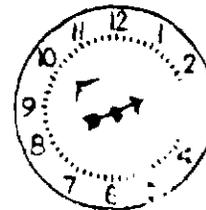
b. This headquarters be informed of the action taken.

FOR THE COMMANDING GENERAL:

R. C. MORRIS
Major, AGC
Asst Adj General

Copies furnished:
COPORD, DA
CCMLO, DA
The QM General, DA
The Surgeon General, DA
Dir, Ballistics Res Lab
Office, Sp Wpns Dev Dir

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ATOMIC ENERGY ACT - 1954

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Part 2 of 4

Folder 829 - Blast & Shock Hazard

16 DEC 1955

18097

CSRD/O 1st Ind (S/ED)
SUBJECT: Amendment to Proposed Project Regarding Blast Injury Evaluation (U)

Office, Chief of Research and Development, OCS, Department of the Army, Washington 25, D. C.

TO: Chief, Armed Forces Special Weapons Project, The Pentagon, Room 1B-671, Washington 25, D. C.

1. Reference is made to Comment No. 4, Chief, Armed Forces Special Weapons Project to Chief of Research and Development, 25 November 1955, Subject: "Requirements for Information on Primary and Secondary Biological Effects of Air Blast to Army Troops from Nuclear Weapons (U)", furnishing Armed Forces Special Weapons Project comments on the Continental Army Command proposal, paragraph 1a of basic letter.

2. In the referenced BW it is stated that: "Redring projects have been firming and planning and coordination have progressed to the point where the cost in both time and money of reorientation to any more than a very minor degree would be prohibitive". On the basis of this comment and because of the basic problems inherent in conducting a volunteer program to determine injury criteria in the Pacific Proving Grounds it is considered highly improbable that any such program could be included in Redring at this date.

3. It is requested that:

a. Comments be furnished concerning the feasibility of the volunteer program proposed in the basic letter both in Operation Redring and in subsequent test operations at the Nevada Test Site and the Pacific Proving Grounds.

b. In the event it is considered feasible to incorporate a volunteer program in Operation Redring as outlined in the basic letter, recommendations be furnished concerning the implementation of such a program.

FOR THE CHIEF OF RESEARCH AND DEVELOPMENT:

SIGNED

Copies furnished:
CONARC
TSG
COFORD

ROBERT E. COFFIN
Colonel, GS
Chief, Atomic Division

Declassified by DNA, Chief, ISTS
and P. 29- M+KA
Date:

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DAFPE/2/924 (15 Nov 1955) SM Dtd (c)
SUBJECT: Assessment to Proposed Project Regarding Blast Injury Evaluation (U)

18794 75088

Headquarters, Armed Forces Special Weapons Project, Washington 25, D. C. 20 JAN 1956

TO: Chief of Research and Development, OCS, Department of the Army, Washington 25, D. C.

1. Reference is made to the following:

- a. Letter, AFSPW-1 OOO.9(B), Headquarters, COMARC, to Chief of Research and Development, OCS, Department of the Army, dated 6 September 1955, subject: "Requirements for Information on Primary and Secondary Biological Effects of Air Blast to Army Troops from Nuclear Weapons (U)."
- b. Comment #4 to letter referenced in a, above, from Chief, AFSPW to Chief of Research and Development, OCS, Department of the Army, dated 25 November 1955.

2. The comments requested in paragraph 3 of the 1st Indorsement are explained in detail in Annex A attached hereto. These comments are summarized as follows:

- a. The Armed Forces Special Weapons Project does not consider the volunteer program proposed in the basic letter feasible for Operation REDWIND. The AFSPW position in this regard is contained in reference 1b, above.
- b. The AFSPW feels that the nature of the experiment proposed and the rules governing tests at the Nevada Test Site preclude obtaining any more information on the subject than is already available.
- c. The AFSPW considers that the physical nature of the Pacific Proving Grounds and the type of shots conducted there make it extremely doubtful that a human volunteer program is feasible for future Pacific tests.

3. As a further consideration the original COMARC proposal, reference 1a, above, presents the need for a laboratory investigation of primary and secondary effects of blast by pointing out that very little is known of the interacting effects of overpressure, duration, and rise time on the human body. To expose humans to higher levels than they were in DESERT ROCK V in full scale tests before laboratory work has shed sufficient light on the interrelated effects of these blast parameters does not seem advisable. The AFSPW recommends that action on the original COMARC proposal for laboratory investigation of this problem be expedited.

4. The foregoing is in regard to a scientific program and is not related to volunteer participation conducted for the purpose of indoctrination and

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SWPEF/2/924 (15 Nov 1955)

SUBJECT: Amendment to Proposed Project Regarding Blast Injury Evaluation (U)

training such as was done in DESERT ROCK V and VI. It must be pointed out, however, that the results of these exercises cannot be expected to produce data of scientific value.

FOR THE CHIEF, AFSWP

IRVING L. BRANCE
Colonel, USAF
Chief of Staff

1 Incl
Annex "A" - Detailed
Explanation of AFSWP
Comments on Feasibility
of Human Volunteer
Program (SRD)

M/R The orig. CONARC proposal referenced in
1a of the above ltr called for laboratory
investigation of the blast effects on
humans in the BRL Shock Tube and for full
scale tests to corroborate this data.
AFSWP commented unfavorably on full scale
tests until such time as lab. work would
indicate what needed to be tested. AFSWP
offered to furnish \$75,000 to support the
lab. program for FY 56 and budgeted another
\$75,000 for FY 57. It is believed that

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BRL, Attn: Mr. W. J.
Taylor w/1 Incl

this lab. program should be exploited rather than attempting full scale tests w/o
a clear idea of where the areas of interest will lie. SEE A.G. #18295 (Outgoing)
and #17073 (Incoming), EF-2 #157. THE DATA CONTAINED IN INCL 1 CLASSIFIED SRD
BECAUSE IT CONTAINS REFERENCES TO STOCKPILE WEAPONS, YIELD, HEIGHTS OF BURST, AND
EFFECTS RADII FROM WHICH COULD BE DEDUCED SCALING LAWS.

Distribution of Incl 1 (6 cys)

Cy 1A - Addressee; Cy 2A - BRL (Attn: Mr. W. J. Taylor); Cy 3A - SWPEF-2;
Cy 4A - A.G., and Cys 5 & 6A - SWPEF-2, Read File

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J.W. Miller*

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GRADE AND SURNAME OF COORDINATING OFFICERS	<i>LT COL BART</i>	<i>LT COL White</i>	<i>John J. [unclear]</i>	<i>[unclear]</i>	<i>[unclear]</i>
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	<i>[unclear]</i>				<i>[unclear]</i>

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DRAFTER IDENTIFICATION: LT COL BART ihm 1B699C 71300

(Wrtn: 4, 13 Jan 1956) Rank or Grade Surname Initials of Type ~~RESTRICTED DATA~~