

A11/M
A11

6 NOV 1954

NAV1.941006.026

From: Secretary of the Navy
To: Commanding Officer, Naval Air Materiel Center

Subj: Experimental studies of medical nature involving persons in the Naval Establishment

Ref: (a) NavMatCen ltr 11-3-54:jk, J26-2, ser no 0330 of 21 Sep 1954 *20R*

1. Authorization to conduct experimental studies of a medical nature involving human subjects as specified in reference (a) is granted, subject to the definite consideration of the remarks of the Chief, Bureau of Medicine and Surgery, contained in the second endorsement.
2. This does not constitute authorization to pay volunteers for these studies incentive pay for the performance of the extra-hazardous duties.

ALBERT PRATT -
Assistant Secretary of the Navy
(Personnel and Reserve Forces)

Copy to:
SMAMP
SMASD
SMERS

Prepared by CDR Kelly/hh
OASNP&RF - 5 Nov 54
4E793

see also: A11/M 11-5-54

Office Memorandum • UNITED STATES GOVERNMENT

TO : Secretary of the Navy

DATE: 13 NOV 1954

FROM : Chief of Naval Personnel

SUBJECT: Experimental studies of a medical nature involving persons in the Naval Establishment

1. The Commanding Officer, Naval Air Material Center, has requested authority to utilize volunteers from the Naval Establishment to test the impact forces transferred to the pilot's body by the deployment and inflation of parachutes. Effect on animals would be determined prior to utilizing human subjects.
2. The Chief, Bureau of Medicine and Surgery does not anticipate deleterious effects to human subjects provided that the tests are conducted within reasonable limits after preliminary animal experiments.
3. A recommended reply for your signature is attached.

Signature Recommended
W. J. Kelly

Very respectfully,
M. E. ARNO
Deputy Chief of Naval Personnel

611

5 - NOV 1954

From: Secretary of the Navy *Spencer*
To: Commanding Officer, Naval Air Materiel Center

Subj: Experimental studies of a medical nature involving persons
in the Naval Establishment

Ref: (a) 10, MATCEN Ltr NS-3-24-ets 111 (4041) of 23 Sep 1954

1. Authorization to conduct experimental studies of a medical nature involving human subjects as specified in reference (a) is granted subject to the definite consideration of the remarks of the Chief, Bureau of Medicine and Surgery contained in the second endorsement.

2. This does not constitute authorization to pay volunteers for these studies incentive pay for the performance of the extra-hazardous duties.

ALBERT PRATT
Assistant Secretary of the Navy
(Personnel and Reserve Forces)

SECNAV FILES (2)

Prepared by:
Cdr. H. F. Fischer, Jr. (Pers-All1)
Room 2056, Arlington, ext. 41475
10/27/54

RETURNED TO ORIGINATOR FOR
MAILING THIS DATE 11-2
/s/ _____

LEAFLET TRACER DESK
11-2

Pers-All-und
3 NOV 1954

THIRD ENDORSEMENT on NAMATCEN ltr XG-3-ESM:bts All (4041) of 23 Sep 1954

From: Chief of Naval Personnel
To: Secretary of the Navy

Subj: Experimental studies of a medical nature involving persons in
the Naval Establishment

1. Forwarded, recommending approval subject to definite consideration
of the remarks of the Chief, Bureau of Medicine and Surgery in the
Second Endorsement.

M. E. ARNOLD
Deputy Chief of Naval Personnel

COPY TO:
SUALR
BUMED
NAMATCEN

BUMED-714:rw
15 Oct 1954

SECOND ENDORSEMENT on NAMATCEN ltr XG-3-ESM:bts All (4041) of 23 Sept 1954

**From: Chief, Bureau of Medicine and Surgery
To: Secretary of the Navy
Via: Chief of Naval Personnel**

**Subj: Experimental studies of a medical nature involving persons in the
Naval Establishment**

1. Forwarded recommending approval.

2. The Chief, Bureau of Medicine and Surgery does not anticipate deleterious effects to human subjects provided that tests are conducted within reasonable limits after preliminary animal experiments.

**W. DANA
Assistant Chief for Research and
Medical Military Specialties**

**Copy to:
BUAER
NAMATCEN**

AEF-AE-52/153

OCT 1954

FIRST ENDORSEMENT on NAMA TCEN ltr XG-3-ESN:bts
All (4041) of 23 September 1954

From: Chief, Bureau of Aeronautics
To: Secretary of the Navy
Via: (1) Chief, Bureau of Medicine and Surgery
(2) Chief of Naval Personnel

1. Forwarded.

2. The Chief of the Bureau of Aeronautics recommends approval of the request stated in the basic letter.

E. W. McLAUGHLIN
By direction

Copy to:
NAMA TCEN

NAVAL AIR MATERIAL CENTER

PHILADELPHIA 12, PA

AG-3-AM:bts
All
(4041)

From: Commanding Officer, Naval Air Material Center

To: Secretary of the Navy

Via: (1) Chief, Bureau of Aeronautics
(2) Chief, Bureau of Medicine and Surgery
(3) Chief, Bureau of Naval Personnel

Subj: Experimental studies of a medical nature involving persons in the Naval Establishment

Ref: (a) Article 1-17, Manual of the Medical Department 1949

Incl: (1) BUADM ltr Aer-AM-323, 12693 of 8 Feb 1951 (as modified by BUADM ltr Aer-AM-521, 69224 of 19 May 1953)
(2) Basic project outline for enclosure (1)

1. In accordance with reference (a), approval is requested to allow for full utilization of volunteers from the Naval Establishment to meet requirements of enclosure (1).

2. As required by reference (a), the experimental design proposed for these studies is submitted as enclosure (2).

3. Appropriate physical examinations will be conducted prior to experiments and immediately afterwards. All pertinent information will be recorded as outlined in paragraph (3) of reference (a).

DEPARTMENT OF THE NAVY
Bureau of Aeronautics
Washington 25, D. C.

In reply refer to
Aer-AE-323
12693
8 February 1951

From: Chief, Bureau of Aeronautics
To: Commander, Naval Air Materiel Center
Subj: TED HAN AE 525126 Physiological Tolerances of the
Human Body; Study to determine; request for
Ref: (a) Mater ltr Aer-71-32, Serial 8791 of 26 Jan 1951

1. The impact forces transferred to the pilot's body by the deployment and inflation of the parachute are an important consideration in the development of personnel parachutes for use under conditions of high altitude and high speed bailout. The design of the parachute canopy and harness is greatly affected by the magnitude of the shocks that the human body can withstand without injury or excessive discomfort. To the best knowledge of this Bureau, no accurate and dependable data exists as to the tolerances of the human body as they are affected by parachute shock openings and as influenced by various altitudes. It is felt that the personnel parachute development program cannot achieve its objectives until these tolerance limits are accurately determined and the data substantiated by comprehensive tests.

2. A Project Order was established at the Naval Medical Research Institute to investigate this problem, but, inasmuch as the investigating officer at the NMI has been transferred to the Aero-Medical Equipment Laboratory, Naval Air Materiel Center, the project order with remaining funds has been transferred to NAMC in accordance with reference (a).

3. Accordingly, it is requested that the following be investigated and a complete report be submitted to the Bureau of Aeronautics upon completion thereof:

a. Determine the physiological tolerances of the human body as they are affected by parachute shock openings.

b. Determine design specifications for an improved parachute harness, or some other acceptable supporting device that will afford maximum support and comfort to enable the human body to withstand the maximum accelerations possible

ENCL (1)

X-40b

**AS-11-513
1949**

**Subj: TED MAN AS POSSIBLE Physiological Tolerances of the
Human Body; Study determine; request for**

without injury or excessive discomfort.

4. At present parachute components are developed to transmit not more than 14g's to the pilot's body. It is well known that the human body can withstand much greater forces than this if properly supported or correctly positioned. If this 14g factor can be doubted, the parachute design problem will be considerably eased; consequently, it is recommended that a limit of approximately 14g's be considered as the first objective of the requested project.

5. "TED MAN AS POSSIBLE Physiological Tolerances of the Human Body; Study to determine; request for" has been assigned to this project with a "B" priority, and expenses incident to the completion thereof are chargeable to Project Order 90700-51.

**J. E. SULLIVAN
By direction**

Department of Defense
 United States of America

DEPARTMENT OF THE NAVY
 BUREAU OF AERONAUTICS
 WASHINGTON 25, D. C.

In Reply Refer To

Aer-42-521
 69224
 19 May 1953

From: Chief, Bureau of Aeronautics
 To: Commander, Naval Air Materiel Center

Subj: TED MAN AE Projects, Reassignment of numbers for

Ref: (a) Dater ltr Aer-42-2 serial 53878 dtd 20 April 1953

1. In accordance with and as defined by reference (a), it is requested that the following action be taken:

a. The below listed projects be reassigned new project numbers as follows:

(1) Priority "0" projects:

from AE 525000	to AE 5237
AE 525000.10	AE 5237.1
AE 525000.12	AE 5237.2
AE 525000.13	AE 5237.3
AE 525000.18	AE 5237.4
AE 525096.1	AE 5238
AE 525109	AE 5239
AE 525112	AE 5240
AE 525119	AE 5241
AE 525137	AE 5243
AE 525140	AE 5244
AE 525141	AE 5245
AE 525093	AE 5251

(2) Priority "01" projects:

from AE 525126	to AE 5246
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(3) NAF Priority "3" projects:

from AE 525122	to AE 5248
AE 525131	AE 5249
AE 525132	AE 5250

b. The below listed projects are to be cancelled:

AE 525000.19
 AE 525127
 AE 525055

Basic Project Outline

Project Title: TED WAM AE-5246 Physiological Tolerances of the Human Body; Studies to determine

Project Objectives:

- 1. Determine effects on animals of directing controlled forces to their bodies, varying the followings: body orientation, configuration, of force-time curves. Determine effects of respiration, circulation, and nervous system.**
- 2. Design, develop and test, using dummies, human subjects and animals various harnesses, configurations.**
- 3. Make recommendations for changes in current designs to the Bureau of Aeronautics.**

Brief Outline of Work Plan

To be discussed with other investigators in the Naval Establishment prior to initiation of certain phases. For example, for evaluating the existing acceleration devices at the Naval Air Material Center, the aeronautical Medical Equipment Laboratory and the Bureau of Aeronautics (AE-633) investigators desire to serve as subjects at low levels of acceleration.