ARM1.950327.022b
Report "E"
UNCLASSIFIED

[redacted]

U.S. Nationals Only
Security Information

[redacted]

ITEM 2-4-46

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF CHEMICAL OFFICER
Chemical Corps Technical Committee
Army Chemical Center, Maryland

[redacted]

REGRADED [redacted]
BY AUTHORITY OF AR-380-5
MAR 5 1956

4-12-10-001
TSE/5190/jd
25 Mar 1952

SUBJECT: Completion of Project 4-12-10-001, Apparatus & Methods for Atomic Weapons Tests - Operation GREENHOUSE

APPROVED
24 APR 1952

TO: Chairman, Chemical Corps Technical Committee

1. References:

a. CCTC Item 1991, Specially Classified RW Projects in the 1950 Project Program, as approved by Item 2011, 18 Jul 1949.

b. Ltr (S) CMLRE-CR (R-h) Cml & Rad Labs, 3 Jan 1952, Completion of Project 4-12-10-001, to CG, R&E Cmd, ATTN: Sp Proj O, w/1st Ind, CMLRE-SP, 8 Jan 1952, w/Incl (Ltr, CMLRE-SP, 8 Jan 1952, to Chm, CCTC).

2. Discussion:

a. Reference a. identifies action of this Committee which established the subject project in the 1950 CmlC project program to be prosecuted under a 1-A priority. As originally approved the project number was 4-12-01-003 which was subsequently changed to 4-12-10-001 as recorded in CCTC Item 2214, 20 Nov 1950. The basic requirement for this project was to develop apparatus and methods for testing and evaluation of CmlC protective devices, materials, and techniques utilized in Operation GREENHOUSE.

b. Reference b. pointed out that the work projected under the subject project was now complete and that final reports had been submitted to "J" Division, Joint Task Force, 3.1, Los Alamos, New Mexico. Since all objectives have been attained and no further work under project 4-12-10-001 is anticipated other than minor revisions of the final reports, reference b. requested that formal termination proceedings be recorded. Unexpended funds now allocated for this work were recommended for transfer to related project 4-12-10-003, Atomic Weapons Tests, which provides for a continuous review and analysis of such tests to determine requirements for additional data, prepare test programs, and assure technical advice and assistance pertaining to defensive aspects of RW. By 1st Ind to reference b. the CmlC R&E Command requested necessary action by this Committee to approve completion of project 4-12-10-001 as indicated herein.

no Cover Sheet

CONFIDENTIAL [redacted] UNCLASSIFIED

2. Discussion (continued):

c. Work under the subject project has been reported in the CmlC Semiannual Progress Report issued 31 Dec 1951 from which the following summary of work accomplished is extracted as a matter of pertinent information:

(1) Operation GREENHOUSE was conducted in the spring of 1951 for which this Corps was assigned responsibility of project 6.1, Cloud Particle Size and Distribution; 6.6, Evaluation of Filter Material; and 6.10, Evaluation of Collective Protector Equipment. Cooperating support was given to project 5.1, Evaluation of Ground Radiac Equipment; project 6.7, Contamination and Decontamination Studies (Aloft); and project 6.9, Protective Clothing.

(2) The following pertinent conclusions have been indicated on the projects for which the Chemical Corps had primary responsibility:

(a) Project 6.1 - The median particle size range of all radioactive and non-radioactive matter is 0.15μ to 0.3μ and the median diameter of radioactive particulates is approximately 1μ. Particle size distribution is heterogeneous. Any requirement for airborne protective equipment will require consideration of the external radiation hazard and operational feasibility.

(b) Project 6.6 - Under this phase of the study efficiency of Types 5, 6, 7, and 8 Filter Material was determined against cloud contamination. Data obtained agree closely with that from the laboratory and indicate the efficiency of these papers is comparable to that obtained with non-radioactive aerosols.

(c) Project 6.10 - Tests on underground structures 1710 feet from the zero point showed excellent resistance to blast effects. Radiation within the shelter approximated that calculated on the basis of external sources and thickness of shielding provided.

(d) Project 5.1 - Under this project an experimental individual dosimeter was evaluated. Data indicated that the initial calibration was inaccurate due to decomposition of the filling; however, after recalibration satisfactory results were obtained in comparison with other dosimeters of this type. The most serious limitation of

2. c. (2) (d) Discussion (continued):

these instruments is the low order of accuracy when used without a control instrument.

(e) Project 6.7 - Under this project samples of structure materials were contaminated by passage through the radioactive cloud. Results indicated that smooth non-reactive surfaces were three times superior to rough surfaces. Operation of standard decontaminating apparatus using twelve different agents showed that anionic materials in water possessed superior decontaminating characteristics.

d. The foregoing paragraphs briefly summarize the results obtained under the subject project and point out that all projected tasks are now complete and that this fact should be so recorded by formal action of this Committee.

3. Recommendations:

It is recommended that:

a. Project 4-12-10-001, Apparatus & Methods for Atomic Weapons Tests - Operation GREENHOUSE, currently approved in the 1952 project program, be recorded as completed.

b. All remaining funds allocated to this project be transferred to project 4-12-10-003, Atomic Weapons Tests.

c. Records and files on the subject project be retained in the Secret category, US Nationals Only, except for those portions not including Restricted Data which may be released to NATO nations in accordance with pertinent regulations.

d. The CmlC FY 52 project program be revised in accordance with this action.

Completion of Project 4-12-10-001, Apparatus & Methods for Atomic Weapons Tests - Operation GREENHOUSE

Concurrence Signatures

/s/R.C.Benner, Col, CmlC
Chemical Corps Board

/s/R.Buchanan, Capt, CmlC
Field Cml Office, AFF

/s/D.H.Siegfried, LtCol, USAF
Air R&D Cmd

/s/ R. C. Kinne
Wright Air DC

/s/L.W. Cather, Col, GS
R&D Sec, OCAFF

/s/W.G.Robbins, LtCol, CmlC
Inspec Div, Mat Cmd

/s/H.W. Rowan, Col, CmlC
PT&I Div, OCCmlO

/s/ R. A. Murdock
BuShips, Navy Dept

/s/M.J.Hantover, Capt, USN
Bu Med & Surg, Navy Dept

/s/ R. A. Bergseth
Materiel Div, OCCmlO

/s/ W.H. Thompson
Proving Gr Div, R&E Cmd

/s/R.C.Morris, LtCol, CmlC
Supply Div, Mat Cmd

/s/ W. P. Swain
BuOrd, Navy Dept

/s/ Dr. E. A. Ramskill
Naval Res Lab

/s/T.R.Johnson, Cmdr, CEC, USN
BuYds&Docks, Navy Dept

/s/ F. V. Ludden
Ordnance Corps

/s/K.J.Hayes, LtCmdr, USN
Naval Unit, A CmlC, Md.

/s/L.O.Rostenberg, Col, CmlC
P&E O, R&E Cmd

/s/ L. T. Fleming
Transportation Corps

/s/ Dr. L.D. Fothergill
Bio Labs, Camp Detrick

/s/ M.W. Bayliss, Col, MC
Med Labs, A Cml C, Md.

/s/ I. B. Morgan,
Engr Div, R&E Cmd

/s/C.L.Sayre, Col, CmlC
Engr Agency, A Cml C, Md.

/s/W.J.Allen, Jr., Col, CmlC
R&D Div, OCCmlO

/s/F.J.Delmore, Col, CmlC
Cml&Rad Labs, A Cml C, Md.

/s/J.W.Fitzpatrick, LtCol, CmlC
Edgewood Proving Ground

ACCEPTED BY THE CHEMICAL CORPS TECHNICAL COMMITTEE, 24 Apr 1952:
/s/ T. S. Eckert
Secy, CCTC

APPROVED FOR THE CHIEF CHEMICAL OFFICER, 24 Apr 1952:
/s/ William M. Creasy
Brigadier General, USA
Chairman, CCTC

APPROVED BY ORDER OF THE SECRETARY OF THE ARMY, 24 Apr 1952:
/s/ Thomas E. Marfing
Major, GSC
ACofS, G-4