

DEPARTMENT OF DEFENSE

**OFFICE OF THE UNDER SECRETARY OF DEFENSE
PERSONNEL & READINESS**

DEPUTY UNDER SECRETARY FOR PROGRAM INTEGRATION

INFORMATION MANAGEMENT OFFICE

CHEMICAL WEAPONS EXPOSURE PROJECT

SUMMARY OF ACTIONS AND PROJECTS

1993 – 2007

EXECUTIVE SUMMARY

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SUMMARY FOR 1993

BINDER I



This report was prepared at the request of the Office of the Under Secretary of Defense for Personnel and Readiness, Information Management Office. It summarizes the efforts of the Department of Defense to identify, collect, archive, and forward to the Department of Veterans Affairs the names of DoD personnel exposed to chemical, biological, or nuclear agents during research, testing, and transportation of subject agents.

Information was extracted from current and archived files containing official letters, memoranda, technical and administrative reports, task force and work group reports, Congressional briefings, news paper articles, and from the corporate memory of the preparer. Major source documents that define the efforts undertaken from 1993 to 2004 are included at tabs to the report. Submitted September 26, 2007. Addendum added May 2008.

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Executive Summary

This report was requested by the Director, Personnel & Readiness Information Management (IM) as a result of the continuing interest in, and need for, information collected during the 1990's concerning the use of human test subjects in Department of Defense(DoD) chemical weapons research during and following World War II.

It is a summarized history of the participation of the P&R IM Office in the recurring requests for information from Congress, the Public, Military Veterans and their survivors; as well as other Federal Agencies, particularly the Department of Veterans Affairs(VA) and the National Institutes of Health (NIH). The summary covers the years from 1993 through the current month of September, 2007. During this period the P&R IM Office went through several name changes, which are noted in the report to provide clarity and the continuity of actions and projects managed by this office.

The DoD Chemical Weapons Exposure Study was initiated in 1993 as the DoD response to direction from President Clinton, Congress, and the Secretary of Defense. The impetus for their concern and aggressive response was the publishing of a scientific study by the NIH Institute of Medicine. This study was *VETERANS AT RISK The Health Effects of Mustard Gas and Lewisite*, edited by Constance M. Pechura and David P. Rall, and released in January, 1993. This report started a line of inquiry into Government conducted research using human test subjects that is still a contemporary topic of concern, research, and interest today. At the time of this writing the P&R IM Office had recently been contacted again by the Government Accountability Office (GAO) concerning programs, funding, and promises from the original 1993 effort.

Although the original program impetus from January 1993 was targeted at veterans that had been the subject of experiments and tests using mustard gas and lewisite, by January of 1994 there was significant information that indicated biological agents had also been tested. Also, the specter of human subjects having been used for radiological experiments had surfaced in records recovered, in newspaper stories, and in Congressional inquiries. Although this specific kind of exposure was researched, and records collected, under the cognizance of the then Assistant Secretary of Defense for Atomic Energy, there is mention of, and documentation from, the program in this summary because the two programs were often the topic of the same Congressional hearings, and the staff of both studies worked together and exchanged information and assistance to each other whenever needed. Personnel from this effort were full participants in several of the projects and meetings undertaken by the P&R IM Office back in the 90's.

The major effort of the Chemical Weapons Exposure Study to locate and identify WWII chemical weapons test sites and human test subjects was carried out

during the period between 1993 and 1995. *Section A, Summary for 1993*, lent itself to more of a chronological presentation than Sections B and C, because as the issue unfolded over the year and projects were developed, they flowed with the course of Executive direction from the White House, Cabinet levels, and to meet continuing Congressional inquiry and requests for accountability. *Section B, Summary for 1994*, is arranged more by major issue or project, and contains summary descriptions of actions, studies, and Congressional Hearings—which were particularly active that year. One of the major documents located for this section was an entire Briefing Book for a 1994 *Hearing on Experiments With Human Test Subjects*. This book includes an alphabetical index of topics and is invaluable in documenting the efforts on the Chemical Weapons Exposure Study up through September, 1994. The entire book has been reproduced and added to *Section B* as an addendum. Notes on its importance are bolded in the Table of Contents, as it should be fully reviewed when examining *Section B, Summary for 1994*, in order to get the full scope of the efforts taken to recover names of test subjects.

The P&R IM Office continued to have full oversight for the project until sometime in 1995 when it was transferred to the Defense Manpower Data Center. Even then P&R IM continued to be very active with Congressional, SECDEF, and VA issues concerning the collection and sharing of names and information on the chemical and biological test subjects. Although there were continued data collection efforts into 1995 and 1996, most of the activity on the files was and continued to be to respond to requests from veterans or VA to provide information to assist with compensation claims, and to locate surviving test subjects and send them Certificates of Commendation. However, in 1996 the P&R IM Office initiated a project to improve and streamline passing of human exposure information to the VA. The *Exposure Records Locator Project Final Report*, including radiation and nuclear test records, was published in 1997. These efforts are summarized and documented, along with examples of the DoD Certificate of Commendation, in *Section C, Binder III, Summary for 1995 Through 2007*. *Section C*, like *Section B*, is arranged by major issue areas.

Not until 2003 was there another major interest in the Chemical Weapons Exposure Study. That year the DoD Public Affairs Office was contacted by the *Detroit Free Press* concerning a story being written about the WWII mustard gas and lewisite human test subjects. In 2004 the newspaper printed a three part expose' on these veterans and the actions of DoD and VA to recognize and assist them. The full expose', with a transcript of the interview with the P&R IM Director and Project Lead, is in *Section C*. Also in that section are notes on the most current request from GAO made to the Director, P&R Information Management in August, 2007.

This *Executive Summary*, and the narrative summary included in each section, is based on review of the available records on the program, paper and electronic, and the memory and recollections of the author spanning a fourteen year

period. Information to compile this summary history was collected from the following sources:

- files and stored records of the P&R IM Office
- files and electronic records of the retired Project Lead (author)
- files from the Defense Manpower Data Center
- files from the office of the Program Director for CBRN (Chemical, Biological, Radiation) Assessments, Deployment Health Directorate

The CBRN Office is located in the TRICARE Management Activity, under the Office of the Assistant Secretary of Defense for Health Affairs. They currently hold the major portion of the Chemical Weapons Exposure Study files which were transferred to CBRN in 2005. This includes the original files of the P&R IM Office from 1993 through 1995.

Finally, since some of the information in the narratives was gleaned from the author's memory, and from her re-interpretation of files and records from ten to fourteen years ago, if they are in conflict with any reader's personal recollection or other records not reviewed at the time of this report, she apologizes for any error or omission, misinterpretation, or her poor recollection. She would welcome feedback so the record can more accurately reflect those events.

Martha E. Hamed

26 September 2007

Addendum May 2008:

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GAO Report: CHEMICAL AND BIOLOGICAL DEFENSE DoD and VA Need to Improve Efforts to Identify and Notify Individuals Potentially Exposed during Chemical and Biological Tests GAO-08-366 dated February 2008 added to Section C Binder III.

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SUMMARY FOR 1993

I VETERANS AT RISK

On January 1, 1993 the Institute of Medicine(IOM) released *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite*. This report was initiated by a request from the Department of Veterans Affairs, and was the result of a committee convened to investigate a nexus between specific medical conditions and exposure to mustard gas and/or lewisite. Mustard gas and Lewisite are blister producing (vesicant) agents. There are two types of mustard agents, sulphur mustard and nitrogen mustard. Lewisite is an organic, arsenic containing, compound sharing some of the properties of mustard agents. The major finding of the report was that there were about 60,000 U. S servicemen that had been used as human test subjects at various sites during WWII, including tests in the tropical climate of Panama. Those participants were sworn to secrecy, describing verbal oaths of secrecy often being administered. This oath of secrecy inhibited the test subjects from coming forth and seeking compensation and benefits from the Department of Veterans Affairs (VA) for exposure related conditions.

The following were the general conclusions of the committee:

- The lack of follow-up health assessments of the human test subjects, by their researchers or medical personnel severely limited the amount of information that could be used to determine long term health effects.
- Levels of exposure to agents may have been higher than implied by reports
- There were no studies done on occupational health risks to workers in production, handling (storage and transportation), and chemical weapons training facilities, nor for combat exposures from WWII.
- There were several medical conditions the VA identified as being presumptive of exposure to mustard gas: laryngitis, bronchitis, emphysema, asthma, conjunctivitis, keratitis, and corneal opacities.

An extract from the report is at Tab A1 with a copy of the Table of Contents and the Executive Summary, along with a 1993 article from the Washington Post titled *Getting Burned* written by Tracy Thompson.

II EXECUTIVE AND CONGRESSIONAL REACTIONS TO THE REPORT

Department of Veterans Affairs

On January 5, 1993 the Acting Secretary of Veterans Affairs, Anthony Principi, signed a letter to Secretary of Defense (SECDEF) Dick Cheney citing *Veterans at Risk* and requesting information on the types of tests conducted (patch, chamber or field), the

agent used, and the names, units, and service numbers of personnel who participated in the tests so that VA could attempt to notify them of possible health risks and evaluate them. They also asked for specific information on test participants at Edgewood Arsenal, on exposures that may have been occupational such as storage and handling, and for information on exposures as a result of the Bari Harbor disaster in Italy during December of 1943. In addition he requested that personnel who participated in these secret tests be released from their oaths and expressed a desire for coordination on communicating the release to veterans. A copy of this letter is at Tab A2.

House Committee on Veterans Affairs

On January 22, 1993, Representative G. V. (Sonny) Montgomery, Chairman of the Committee, signed a letter to the new SECDEF, Les Aspin, also citing *Veterans at Risk*. Representative Montgomery's main concerns were the detrimental impact of the oaths of secrecy on the treatment and compensation of veterans who were test subjects, and the noted absence of records that would corroborate veterans' claims of participation in tests or other service related exposures to chemical warfare agents. He requested that information be made available to the VA concerning test sites, units assigned, individual names and service numbers if possible, and dates testing was conducted. He also requested information on facilities that would have led to occupational exposures through production, transportation and storage. In addition, Representative Montgomery directly cited the allegation in the report that a lingering atmosphere of secrecy inhibited the full collection of information for the report. He went as far as describing a letter he, Secretary Aspin (then in Congress) and Representatives Stump and Dickenson sent to SECDEF Cheney requesting information on experiments on service members using LSD, mustard gas, other dangerous chemicals. He characterized the response they received as inadequate, as it did not report any of the information that was reported by the IOM report. A copy of the letter from Representative Montgomery is at Tab A3.

General Accounting Office (GAO)

On February 18, 1993 a GAO Report was released with the title *VETERANS DISABILITY Information From Military May Help VA Assess Claims Related to Secret Tests*. This report not only cited the mustard gas and lewisite tests, but discussed the tests using human subjects that involved the use of nerve agents, nerve agent antidotes, and lysergic acid diethylamide (LSD). The report mentions hearings held in 1991 and actions taken by VA to adjust the criteria for claims for chemical agent test subjects, and mentions the detrimental impact of the gaps in information and documentation in DoD. Recommendations were for collection of necessary information to make compensation determinations and naming points of contact at Army and Navy. A copy of this report is at Tab A4.

The White House

On February 19, 1993, President Clinton signed a letter in response to correspondence from Representative Glen Browder. In his letter President Clinton stated that the VA and DoD were diligently working to identify the affected veterans, and that VA had “relaxed requirements for evaluating mustard gas claims” and had requested DoD release former members from the oath of secrecy. He also stated that he had directed the Secretaries of both Departments to expedite the required actions to deliver benefits and compensation to the affected veterans. A copy of President Clinton’s letter to Representative Browder is at Tab A5.

The Office of the Secretary of Defense

On March 9, 1993 Deputy Secretary of Defense (DEPSECDEF) William J. Perry signed a departmental memorandum on Chemical Weapons Research Programs Using Human Test Subjects. The first statement of this memorandum released persons from oaths of secrecy or non-disclosure restrictions, either written or oral, if they had participated in any testing, production, transportation or storage associated with any chemical research that happened prior to 1968. He also stated he was declassifying documents for chemical weapons research studies conducted prior to 1968 to include the locations of the programs, the kind of tests conducted, and the start and finish dates of each test. He also included identification of units stationed at research sites during testing periods down to name, service or social security numbers, and names of those known to have been test subjects. Declassification was also extended to documents concerning production, transportation and storage of these agents. Secretaries of the Military Departments were directed to fully cooperate in these directed actions and to initiate procedures to carry out the declassification of the specified documents. Information on locations of chemical test sites, agents used, test dates, and any personnel involved were to be collected immediately and provided to OSD by July 31, 1993. Also on March 9, Deputy Secretary Perry signed a letter back to Representative Sonny Montgomery thanking him for his letter about *Veterans at Risk* and forwarding a copy of his 9 March internal memorandum directing the actions cited above. A copy of the March 9, 1993 internal memorandum and the letter back to Representative Montgomery are at Tab A6. A copy of the Department of the Army internal memorandum requiring a comprehensive search for the information requested in the 9 March memorandum is at Tab A7. Since the primary concern was former Service members who were now veterans, oversight for carrying out the DEPSECDEF’s mandates was assigned to the Office of the Assistant Secretary of Defense for Force Management and Policy (OASD(FM&P)). That office is now the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)).

On March 17, 1993 the Deputy Director of Defense Research and Engineering (DDR&E) signed a letter to Secretary of Veterans Affairs Jesse Brown. It stated that DoD would make every effort to assist VA and that areas of assistance would include compilation of the names of personnel, test protocols, and available data for mustard gas

testing for WWII and Edgewood Arsenal in particular. The same would be provided for Lewisite and mustard production and handling, as well as names of personnel exposed during the Bari Harbor disaster. The letter also stated that points of contact for each Military Department would be provided, and referenced the March 9 DEPSECDEF memo in regard to release of former personnel from oaths of secrecy and non-disclosure restrictions. The letter closed with a stated “hope” to provide the information to the VA within that current fiscal year which would have been a target date of September 30, 1993. A copy of this letter is at Tab A8.

III OASD (FM&P) ACTIONS AND REPORTS

OUSD (P&R) Information Management Office

The office in OSD with primary oversight of the Chemical Weapons Exposure Study from 1993 to 1995 was the Information Resources Management Office under the Deputy Assistant Secretary of Defense for Requirements and Resources under the Personnel secretariat. The Office is still under the Personnel secretariat and is the current Deputy Under Secretary for Program Integration (DUSD(PI)). The Information Resources Management (IRM) Office has had several name changes, but is currently the Personnel & Readiness Information Management Office. This office assigned senior personnel to chair task forces and working groups, carry out reviews and analysis of chemical weapons test sites and records repositories, and to be the primary point of contact for inquiries from the office of the Secretary of Veterans Affairs, the Veterans Health Administration, the VA Compensation and Pension Service, Congressional staff, the National Archives and Records Administration, National Personnel Records Center (NPRC) in St. Louis, Missouri, and many of the individual veterans. At any given time there was a GS-15, GS-14 and GS-12 actively working on the project—conducting site reviews and records analysis, collecting names, responding to the VA and to individual veterans, and preparing status reports and compiling the database of names of verified test subjects. In addition to responding to and verifying veterans’ exposures, verification was also done on several civilian exposures since documentation was found that civilian personnel had also been exposed to these agents via occupational activities. One of the major issues that negatively impacted the ability of the VA and DoD to corroborate veteran’s claims was the unavailability of military personnel records that had been destroyed in a major fire at NPRC in 1971. Because of this the IRM Office commenced an immediate review of test sites and records repositories within DoD, particularly the Army and the Navy. Tab A9 contains a list of sites visited in 1993.

Chemical Weapons Exposure Study Task Force

To help respond to the need to locate appropriate information to assist WWII veterans to file compensation and benefit claims for injury and illness resulting from chem/bio exposures, OASD (FM&P) created the Chemical Weapons Study Task Group

(CWEST). This group was comprised of senior personnel from OSD personnel, health and medical, environmental, atomic energy and research communities, as well as the Military Services. The CWEST initiated an interagency task group that met to recommend a specific plan of action to respond to the information needs of the VA to assist veterans, and to the specific directives from the March 9 DEPSECDEF memo. This group was the CWEST members augmented with senior officials from both the Veterans Health Administration (Epidemiology) and the Compensation and Pension Service. The group met on April 19 to develop a plan of action and program of work. The group used as a model the process used by the Defense Nuclear Agency (DNA) to respond to similar issues with personnel affected by the nuclear testing carried out by the U. S. in the Pacific Islands and in Nevada. The group recommended appointment of an Executive Agent and specific tasks for identifying locations and content, declassification actions and issues, compilation of databases on sites and personnel tested. They further recommended actions to halt any destruction of records pertaining to testing, storage, transportation, and handling, and the collection of descriptions of the records collections by the Executive Agent. The work group also recommended that a complete history regarding chemical weapons testing be developed for each site, and listed specific data elements that should be included in both a site level database and a name level data base. A list of CWEST members and a copy of the April 22, 1993 interagency group report, with members, is at Tab A10.

As a result of this April 22 report a Request for Approval of Information Collection was initiated in May, 1993. The request was approved in June 1993, and information collection began shortly thereafter. The request for approval and back up information is at Tab A11, along with the Supporting Statement and draft Federal Register Notice. Since the Department of the Army had oversight of the chemical weapons testing and develop programs, senior leadership proactively went out with a data call in May and early June. A copy of the consolidated Army response, with records collections and cost data, is at Tab A12.

Chemical Weapons Exposure Study Update July 1993

By July 1993 DoD had initiated several working groups and projects to try to locate test sites and records repositories in order to identify test subjects and to find documentation the VA would deem sufficient and reliable in adjudicating veterans compensation claims related to chemical weapons activities. The IRM Office had identified five major sites of chemical testing that used human subjects, for example Edgewood Arsenal in Maryland, and Dugway Proving Ground in Utah. They had also identified seven major sites where field testing was conducted, some of which were no longer in existence, such as Bushnell Field, Florida and Camp Sibert, Alabama where tests were held to determine effects of the chemicals in tropical conditions. The IRM Office had also contracted with the Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC) in Edgewood, Maryland, to compile a site location database. By July there was a preliminary run with 117 entries. They had also collected a large sample of the various kinds of documentation that was found to contain names of

test subjects and volunteers. Some were morning reports, duty rosters, orders of special commendation, and some military personnel medical records that documented treatment for burns and injuries resulting from the tests. Also by July, DoD had been able to start a preliminary Chemical Weapons Exposure Database and had found almost 4,000 names. These names were forwarded to the VA as they were found, the first large list be the test subjects from the Naval Research Laboratory. Also during July a study update was prepared and a briefing was given to staff and members of the House Committee on Veterans Affairs (mostly staff members). A copy of an initial draft of the Chemical Weapons Exposure Study Update is at Tab A13, and the original cover sheet that notes preparation for Congressional briefing was left for integrity of the source material. The report provides samples of the Chemical Weapons Site Location Database being prepared by CBIAC at Tab One. Tab Two is lists of the repositories identified up to that time with samples of the kind of documentation used to identify the repositories such as field reports, a medical report of injury, and excerpts from technical and historical books. Tab Three has information on the preliminary Personnel Database with samples of medical records documenting exposures, temporary duty rosters of officers assigned to a field test site in Panama; and other kinds of personnel and operational paperwork that helped document test participation. Tab Four was a summary of major issues/problems that had arisen during the first six month of the project. A copy of the pared down brief given to Congressional staffers is at Tab A14.

Personal Interface and Response to Affected Veterans

The senior lead for the IRM Office had personal contact with many of the affected veterans and some former DoD civilian employees affected by chemical exposures. This exchange was not only to assist the individuals in obtaining appropriate compensation, it also was an additional source of information other on other sites that tests were conducted, or agents were stored or handled. Communication with these individuals assisted in locating an additional test site at Harts Island in New York; a specific example of a Navy commendation given to individual test participants; location of records archived at a major university library; and verification of official record keeping for occupational exposures of civilian employees (only two contacted OSD during the 1993 time frame). Tab A15 contains short anecdotal summaries of some of the direct veteran and former employee contacts with the IRM Office.

IV Inter-Agency Actions

DoD/VA Non-Medical Benefits Task Force

Secretariat, Executive and other senior level management in both the VA and DoD were kept fully apprised of the activities to respond to the information requirements of the VA set forth in Acting Secretary Principi's letter of January 5 and in the actions directed by the memorandum from Deputy Secretary Perry dated March 9, 1993. This

was done by information papers, briefing books, and in executive meetings such as the DoD/VA Non-Medical Benefits Task Force. The term non-medical in the task force title was to clearly delineate between the ongoing executive level coordination and collaboration between the DoD and VA medical/clinical professionals within the Veterans Health Administration and the Office of the Assistant Secretary of Defense for Health Affairs. Although the Non-Medical Task Force clearly dealt with issues impacting medical benefits, it was to provide force management and protection policies and personnel processes that would clearly assist, augment, and document the promulgation of medical and clinical directives for force health and safety by disseminating and collecting pertinent information. In addition the personnel community collaborated with health and medical to assure that operational and administrative personnel records fully and concisely collected information on Service member activities in and out of theatre that would be used for health and fitness for duty assessments, and for later compensation and benefit determinations by DoD and the VA. In October of 1993 the DoD/VA Non-Medical Benefits Task Force was briefed on the mustard gas and lewisite project and the activities of the CWEST. The principal department leads for the task force were the ASD for Personnel and Readiness (formerly FM&P), and the VA Deputy Under Secretary for Benefits. The ASD (Health Affairs) also sat on this task force as did the DASD Requirements and Resources (R&R), who had lead on the Chemical Weapons Exposure Study. The Executive Secretary for DoD was the Director of the IRM Office, a direct report to the DASD (R&R), and responsible for the management of the study and interface and liaison with the VA. Tab A16 is an extract from the read ahead Briefing Book with the table of contents (chemical weapons exposure is section 7), the list of members and the charter of the DoD/VA Non-Medical Benefits Task Force, and a copy of the minutes from this meeting. Tab A17 is an issue paper titled Chemical Weapons Exposure Study and the proposed 1994 travel schedule for the Study to be conducted by the IRM staff. Both the issue paper and the travel schedule were included in the read ahead briefing book for the October 27 meeting of the DoD/VA Non-Medical Benefits Task Force.

V Radiation Experiments

The Defense Nuclear Agency had oversight of research done that either used human test subjects or resulted in the exposure of military (and civilian) personnel. Tab A10 contains the Nuclear Test Personnel Review Report. At the end of 1993 the issue of human test subjects used in radiation tests again became an issue. On December 30, 1993 a Memorandum for the Special Assistant to the Secretary of Defense was signed by the Assistant Secretary of Defense for Personnel & Readiness. It discusses Army, Navy and Air Force efforts to identify test subjects and records, and mentions the effort to the ongoing Chemical Weapons Exposure Study to locate similar records. The report also cited a concern about locating information on experiments that may have been conducted by other Federal agencies such as Department of Energy, and the National Institute of Health, as well as private contractors to the Federal Government. A copy of the memorandum is at Tab A18.

VI CLOSING OUT THE YEAR

At the end of 1993 the major issues facing the Department of Defense were the same ones reported in the July status report, with the addition of the issue of radiation experiments using human test subjects. The major issues to the Chemical Weapons Exposure Study were as follows:

- The immense costs of full document searches to compile a comprehensive personnel database
- Sensitivity to the content of archived documents
- References to many other tests using biological and other agents, i.e. *LSD*
- Additional 8500 feet of records at Rocky Mountain Arsenal that had not been reviewed
- Large percentage of pre-1970 WWII records destroyed in the fire at the National Personnel Records Center in St. Louis
- The construction of the personnel database being hampered by the geographic dispersion of historical records and files, and interfiling of medical or research records within personnel records with no index or cross reference.

SECTION B

1994

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SECTION B 1994 BINDER II

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- Tab B18 Alphabetical Index of Topics for Briefing Book for September 28, 1994 for Committee on Government Operations, Oversight Hearing on Cold War Era Human Subject Experimentation. Full Copy Attached as Addendum to Section B Summary of 1994***
- Tab B19 P&R IM Office Report on Meeting w/ GAO on August 19, 1994 and Copy of GAO Entrance Letter w/encl dated August 16, 1994
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SUMMARY FOR 1994

I Chemical Weapons Exposure Study

By January, 1994 the IRM Office had identified and verified tests using human subjects at thirteen military sites to include the Naval Research Laboratory in Washington, D. C. Over 2,000 names were retrieved from this location. The other site that yielded names, Edgewood Arsenal north of Baltimore, MD, was also a major records repository; as was Dugway Proving Ground in Utah, both a test site and major records repository. Among the testing sites were locations that were no longer military posts, such as Bushnell Field in Florida and Camp Sibert in Alabama. Tab B1 is a January 1994, list of Chemical Weapons Testing Sites Using Human Test Subjects.

By April of 1994 the major DoD records repositories that had been verified and the holdings reviewed, including Rocky Mountain Arsenal outside of Denver, Colorado. Tab B2 is a list of the repositories and an accounting of the record holdings at each site. Also by April 1994, the full preliminary draft of the Chemical Weapons Site Location Database was provided to DoD by the CBIAC, operated by Battelle Memorial Institute. The database was immediately made available to the VA, and during the year several more copies were sent over to the Compensation & Pension Service. The report was divided into sites with verified human exposures, and sites with verified testing, transportation, handling and storage. It was to be used by the VA to corroborate veterans' claims in incidences where there were no personnel or medical records available. A draft copy of the report is stored digitally in the P&R IM Office at Digital Archive ZLP.1A.59. It was not reproduced for inclusion in this document because of the size of the document. A sample of the summary run from the database is at Tab A13 Binder I.

II Human Exposure Personnel Database and Site Location Database

As soon as names were found, they were extracted and sent to the VA, i.e. some 2300 names from the tests at the Naval Research Laboratory were the first to be provided to the VA during 1993. They were also maintained in a preliminary database. Early in 1994 the OASD (P&R) IRM Office had brought on board a fulltime Army chemical officer to assist in the search for and extraction of names, and developing the personnel database. The CBIAC was still compiling the Site Location Database, and an additional \$100,000 had been put on the contract in order to get a more detailed database.

Various kinds of records were found that aided in the identification of names of test subjects, and locations and dates of tests. From research and testing facilities such as the Naval Research Laboratory and Dugway Proving Ground there were extractions from operational test documents and scientific notebooks. Tab B3 is a copy of a formerly classified technical report from the Naval Research Laboratory. Although it does not contain names of test subjects, it clearly states the dates and purpose of the tests, and

where the subjects came from. In the case of a veteran who could place himself there by date, verification of possible exposure to a chemical agent would be greatly assisted. Tab B4 is a copy of a June, 1944 Army Special Order of Commendation with the names and Service numbers of test subjects who participated in chemical warfare tests during September and October of 1943. Tab B5 is a copy of two military volunteer medical records documenting test participation at Dugway Proving Ground and at Edgewood Arsenal. Unfortunately, this type of documentation was rarely found at research sites or at records repositories like the National Personnel Records Center. Tab B6 is a fully documented civilian employee exposure from Huntsville Arsenal (now Redstone), Alabama in 1942. Again, these kinds of records were rarely located, either because the individuals did not report the injuries because they considered them minor, or a report was not completed nor filed in the personnel folder, or the records were lost or destroyed.

One of the major lists of names provided to the VA during 1994 was the listing of personnel from the incident at Bari Harbor, Italy. A German raid on the harbor resulted in the sinking of several ships carrying mustard gas. The chemical mixing with the water when containers were damaged resulted in chemical burns to many of the survivors who were in the water. These were merchant marine and military personnel. This information had been requested very early in 1993 by the Acting Secretary of the VA in the letter at Tab A2 Binder I. There were 469 names provided to the VA in September, 1994. The cover memorandum, list of Bari Italy names, and notes of explanation are at Tab B7.

III Proposed Consolidation with Human Radiation Research Review

Information arose in mid to late 1993 that there had been ionizing radiation experiments conducted in Federal agencies using human test subjects. Among those agencies were DoD, Health and Human Services (Institute of Medicine), and even the VA was found to have had a SECRET Atomic Medicine Program at one time. To respond to the need to identify test participants and preserve documentation on the testing programs, the Secretary of Defense signed a letter dated January 7, 1994 appointing the Assistant Secretary of Defense (ASD) for Atomic Energy as the focal point for this effort. The Deputy Secretary was named as the senior department official responsible for the project. A copy of the letter is at Tab B8. As a result of the letter the Radiation Experiments Command Center was created, and undertook a search for radiation experiment records and test subjects much like the ongoing Chemical Weapons Exposure Study. Congressional hearings held during 1994 often included testimony on both human test subject programs. As a result there was an interest in combining the two efforts, but that did not happen. Tab B9 is a copy of a package staffed to the Under Secretary of Defense for Personnel and Readiness (formerly the ASD (P&R)) to request the Deputy Secretary of Defense to consolidate the two programs and allot extra funding to accomplish the common tasks.

IV Congressional Actions and Hearings 1994

Congressman Porter Goss

Congressman Porter Goss championed the cause of the World War II mustard gas test subjects. Concerned that the newly focused attention on the radiation test subjects would overshadow the plight of the chemical weapons test subjects, he wrote to President Clinton on January 4, 1994. His letter reminded the President of the pledge he had made in his January 1993 letter (Tab A5) that this issue would not be treated as business as usual. He also requested the President's support for his newly introduced HR 1055, legislation to require DoD to locate and give commendations to the mustard gas test subjects. On January 31, 1994 President Clinton wrote a letter in responded to the letter from Representative Porter Goss. The President commended him for his persistence on this issue, and stated that regulations were in place to allow the VA to complete processing of veterans' claims. He also assured Congressman Goss that the Secretary of Defense and the Secretary of Veterans Affairs were cooperating to identify the test subjects. Tab B10 is a copy of Congressman Goss's letter to the President, a letter forwarding a copy of it to Congressman Ike Skelton, Chairman of the House Armed Services Committee (HASC) Subcommittee on Military Forces and Personnel; and a copy of President Clinton's response. Tab B11 is an extract from the original HR 1055 with the wording requiring the commendations. Tab B12 is a copy of an April 15, 1994, letter from the DoD Acting General Counsel, responding to Congressman Ronald Dellums', Chairman of the HASC, request for the DoD position on the requirement for the commendations. DoD concurred with the proposed legislation, but cautioned about the passage of time and the dispersion of records making it improbable that all the participants could be identified and notified.

Although HR 1055 was never passed, the Fiscal Year 1995 National Defense Authorization Act Conference Report did include a *Sense of Congress* that the mustard agent test subjects should receive commendations from the Department of Defense, they should be notified about their exposure to chemical agents, and provided information on options for health care for related disabilities. Congressman Goss immediately wrote to SECDEF in September 1994. He urged him to follow through on the *Sense of Congress*. A copy of the language was enclosed in his letter, which is at Tab B13 with a copy of the letter to SECDEF.

Congressional Hearings

In 1994 there were several hearings concerning Government experiments using human test subjects and the status of programs set up to identify and compensate the participants, and to locate and maintain documentation on these tests.

February 2, 1994: A hearing was held by the House Judiciary Committee, Subcommittee on Administrative Law and Government Relations. Testifying for DoD was the ASD for Atomic Energy; for VA their General Counsel testified; and on the

secret *LSD* project at CIA, MKULTRA, was the Director, Center for the Study of Intelligence. Also testifying was Congressman Porter Goss, who championed the chemical weapons test subjects, and later served as the Director of the CIA. Also testifying was one of the authors of *Veterans at Risk*, and an individual who had been an *LSD* test subject. Copies of the Hearing Agenda, Witnesses and Panel Members, and the testimonies of these individuals are at Tab B14.

February 10, 1994: A hearing was held by the HASC Subcommittee on Military and Personnel. Testifying for DoD was the DASD for Requirements and Resources, now the DUSD Program Integration. Ms. Fites was giving an update on the status of actions being taken by DoD on the Chemical Weapons Exposure Study. Also testifying was Congressman Porter Goss, who had introduced H. R. 1055 to direct DoD to issue commendations to each person exposed to mustard agent during WWII. Copies of their testimonies are at Tab B15. Ms. Fites' actual testimony extracted from the Congressional record precedes her prepared remarks.

April 27, 1994: A hearing was held on Experiments Using Human Test Subjects. A briefing book was found, but no testimony or any reference to whether the hearing was a Senate or House hearing. The briefing book was not reproduced since the contents of the April briefing book are included in the major briefing book mentioned below for the September 28, 1994 hearing on the same subject.

May 6, 1994: A hearing was held by the Senate Veterans Affairs Committee concerning Open Air Testing, Mustard/Lewisite, Persian Gulf, Processing Service Medical Records. The DASD Program Integration was back-up to the ASD Health Affairs. An extract of the Daily Digest of Senate committee reports for May 6 is at Tab B16.

September 28, 1994: A hearing was held by the Committee on Government Oversight and Operations. It was the Oversight Hearing on Cold War Era Human Subject Experimentation. The DASD Program Integration testified. An extract of the Daily Digest for House committee reports for September 28 is at Tab B17. Although the testimony for the DASD was not located, a complete copy of the briefing book was found. The briefing book is a complete history of the Chemical Weapons Exposure Study up to that time in 1994, and is of such importance that it was included in this report in its entirety in as an addendum to Section B Summary for 1994. The book contains such items as: the Listing of Personnel Present in Harbor at Bari, Italy; U. S. Army Drug Testing Programs Involving Human Test Subjects 1950-1979; copy of an historical record on a History of the University of Chicago Toxicity Laboratory; and samples of the types of historical documents searched at the National Personnel Records Center, and the military installations where testing was conducted. The Alphabetical Index of Topics and the Alphabetical Listing of Topics, with summary descriptions of those major topics, are at Tab B18. As stated, the Hearing on Experiments With Human Test Subjects Briefing Book for September 28, 1994 is an addendum to this report directly after the tabs.

V. General Accounting Office

In August 1994 GAO was directed to testify at the September 28 hearing discussed above. On August 19, 1994 a meeting was held with GAO concerning the efforts on the Chemical Weapons Exposure Study. The notes from that meeting and the GAO entrance letter are at Tab 19.

VI DoD/VA Reinvention Partnership and Information Exchange

On February 10, 1994, the Secretary of the VA wrote to SECDEF concerning recurring disclosures of secret tests and experiments on military personnel, citing the radiation, chemical, and *LSD* tests. He suggested a joint DoD/VA group be appointed to work on these issues specifically. He designated the Under Secretary of the VA as the point of contact in VA and requested a similar point of contact from DoD to work on putting this group together. A copy of the letter is at Tab B20. At some point there must have been interim correspondence agreeing to the VA proposal, because on April 30, 1994, the Deputy Secretary of Defense wrote to the Deputy Secretary of VA fully supporting a DoD/VA Reinvention Partnership. The letter further stated that DoD considered their members on the DoD/VA Non-Medical Benefits Task Force to be the appropriate personnel to sit on the Reinvention Partnership group. A copy of the membership of the Non-Medical Benefits Task Force was enclosed in the letter. A copy of the letter from DEPSECDEF to VA is at Tab B21. A subsequent partnership agreement was drawn up and signed by the Secretaries of Defense and Veterans Affairs on June 30, 1994. A copy of the DoD/VA Reinvention Partnership is at Tab B22. On August 26, 1994, a copy of the DoD/VA Reinvention Partnership agreement, with descriptions of joint projects like the Chemical Weapons Exposure Study, was forwarded to the Office of Management and Budget (OMB) in a Best Practices—Project Progress Report. A copy of the August 26 package to OMB is also at Tab B23.

On April 7, 1994, the Secretary of the VA sent a letter to SECDEF with an attachment enumerating difficulty VA had experienced with getting verification of veterans exposures to chemical agents such as mustard gas and Lewisite. At issue was that VA was expecting a list of names and exposure information by the end of 1993, and a full accounting had not been forthcoming. Also, they requested that DoD collect all the records and consolidate them into a single location. On June 16, 1994, the Under Secretary for Personnel and Readiness replied to this letter stating that there was no single repository of exposure information so the response had been delayed while DoD conducted research to answer. An attachment to the letter responded to each of the VA facts stated in the April 7 letter, specifically that DoD had not committed to a date at the end of FY93, and that it had been clearly stated in Congressional hearings that location and collection of the information would take years. A copy of the April 7, 1994 VA letter to SECDEF is at Tab B24. The June 16, 1994 DoD response from the USD (P&R) is at Tab B25.

VII Closing Out the Year

During the remainder of 1994 the search for records with names of test subjects continued, as did compilation of the Personnel Database. One of the issues that arose during 1994 was the issue of individual "privacy." Some of the records found related issues that some former Service members may not want shared with families and survivors. Issues of that nature were treated with discretion. The other privacy issue that was also a concern was the appropriate way to obtain records to locate and communicate with the veterans whose names were found. Once names were found, if the VA did not have a match, it was necessary to commence a search for status (living or deceased) and obtain a current address.

These issues and others were facing the program as it closed out a year of very active Congressional inquiry. However, the Information Management Office would be less directly involved in the WWII Chemical Weapons Exposure Project, and would become more involved in the issue of chemical exposures and medical agent testing on Service members from the Persian Gulf Conflict. On December 8, 1994 the Committee on Veterans Affairs released a report titled *Is Military Research Hazardous to Veterans' Health? Lessons Spanning a Half Century*. This report addressed not only the mustard gas and lewisite testing in the 1940's, and the LSD tests starting in the 1950's; but went on to address the loss of farm stock from Dugway Proving Ground nerve agent tests in the 1960's, and the most recent controversy over the use of investigational drugs such as pyridostigmine bromide and botulinum toxoid on troops in the Gulf War. The findings and conclusions of the report cited many deficiencies in the DoD human subject experiments over the last fifty years. Among those issues were intentional exposure of subjects to harmful substances, failure to comply fully with ethical standards when using human test subjects, and failure on the part of both DoD and the VA to provide adequate medical follow-up to these test subjects. A full copy of the report from the Committee on Veterans' Affairs is at Tab B26.

In very late 1994 or in early 1995, the Chemical Weapons Exposure Study was moved from the IRM Office to the Defense Manpower Data Center (DMDC). Most of the official files from the IRM Office went with the Chemical Weapons Officer to DMDC.

SECTION C

1995 - 2007

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- Tab C2 Copies of DOD Certificates of Commendation w/Cover Letter to Veteran
- Tab C3 Information Paper on Commendation of Individuals Exposed To Mustard
Agents During WWII Testing c. 1995
- Tab C4 USD(P&R) Correspondence Staffing Package in Response to VA Letters
8 May, 5 July, and 28 July 1995 with reference tabs
- Tab C5 Sample Run from DMDC Personnel Database
- Tab C6 Advance Copy of Announcement Letter for DoD/VA Exposure Records
Locator Project
- Tab C7 *Exposure Records Locator Project Final Report* dated January 23, 1997
and Memorandum for Military Personnel Policy Review Committee
dated March 1997
- Tab C8 *DoD Report on Search for Human Radiation Experiment Records 1944 - 1994*
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- Tab C9 Transcript of P&R IM Telephone Interview w/ David Zeman, Reporter
Detroit Free Press dated October 25, 2003
- Tab C10 Detroit Free Press Expose' *Duty, Honor, Betrayal*—Three Installments
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- Tab C11 Information Paper on DoD Efforts to Identify World War II Chemical
Weapons Test Subjects from November 2004
- Tab C12 Listing of Chemical Weapons Exposure Files for DMDC with List
Of Files in DMDC Storage

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- Tab C13 Project Funding History Document and 1994 Request for Fund Resource Transfer to Battelle Corporation for Chemical Weapons Site Location Database given to GAO September 2004
- Tab C14 Electronic Communication Between Author and GAO Auditors during August and September 2007

SUMMARY FOR 1995 THROUGH 2007

I Chemical Weapons Exposure Study

In 1995 the Chemical Weapons Exposure Study had moved to the Defense Manpower Data Center (DMDC), another organization staffed to the OUSD Personnel & Readiness. The staff there consisted of the fulltime chemical weapons officer formerly staffed to the IM Office, and a support person at the GS-12 level. The search continued for documentation of tests using human test subjects, particularly those documents that would yield names. Participation in the P&R IM Office shifted from day to day work on the project to support for major OSD action items such as augmenting information for hearings or inquiries, or for oversight of major information exchange projects with the VA. Paragraphs II and III are overviews of DMDC activity during the period of 1995-1996.

II Certificates of Commendation

As stated in Section B for 1994, there had been a *Sense of Congress* added to the FY1995 Defense Authorization Act S.2182. This required the Secretary of Defense to issue commendation certificates to each surviving individual and to notify them of the exposure, the possible health effects of the exposure, and the options available for medical treatment. During the period 1995 to 1996 DMDC used the Personnel Database to record the names, most recent addresses, and exposures of WWII test subjects. A copy of the language in the FY1995 legislation is at Tab C1. Tab C2 is a copy of the certificate signed by the Secretary of Defense, and a sample of the cover letter that went with it signed by the Deputy Under Secretary for Program Integration. Tab C3 is a copy of an information paper developed in DMDC probably in 1995 enumerating the possible numbers of test subjects by Service. There were 722 commendations sent to veterans. Copies of those certificates and letters are stored in DMDC Records Box 3 Control Numbers RMI ML 42619, transferred to OASD (HA).

III Personnel Database and Information Exchange 1995 and 1996

As previously mentioned, as soon as names were found, they were extracted and sent to the VA. They were also put in a database developed at DMDC that had the names and last known addresses of test subjects, as well as the kind of agent used and kind of test (chamber, field, protective clothing). This database had also been shared with the VA. In spite of the information being shared with the VA, there was a break down in internal communication and sharing within the VA concerning the information being provided by DoD. This communication problem became very obvious in 1995 when the Under Secretary of the VA sent three separate letters to DoD requesting information that, for the most part, had already been provided to the Compensation and Pension Service.

Tab C4 is a copy of a correspondence staffing package prepared by DMDC answering letters from the VA dated May 8, July 5, and July 28, 1995. The package has attached to it a copy of a memorandum for the record which shows the confusion and frustration in each Department with regard to the information exchange of exposure information. The DoD response addressed each issue in the VA letters and cites the earlier responses provided to the VA, including the large response sent on some identical issues in July, 1994 (Tab B18).

The final database compiled at DMDC contains over 6,000 names. Most of the names are mustard gas exposures (about 4,000). Others were exposures to agents such as chlorine gas, nerve agents, and antidotes such as atropine. The database also had last known addresses, Service or Social Security numbers, and sites where tests were conducted if available. Tab C5 is a sample of some of the data from the Personnel Database. Page one shows name, rank, location of test, agent used, date, and unit of assignment. Page two shows how some tests cited participants as "observers" and did not list a name, although the date and location, and the kind of agent used were recorded.

In September of 1996 the chemical weapons officer staffed to DMDC retired. By this time known sources of documentation had been inventoried and researched for the names of test subjects. An overall estimate of the number of names of WWII test subjects extracted from records collections is about 5,000. Other records located pertained to tests conducted later during the Cold War and were for substances such as *LSD* and nerve agents. DMDC continued to respond to inquiries for validation of veterans' claims up until the time the program was transferred in 2005, which is discussed in paragraph VI.

IV Exposure Records Locator Project 1996

The communication and information exchange issues brought to the fore by the 1995 requests from VA for information already in their possession led to the DoD/VA Exposure Records Locator Project in late 1996. The purpose of the project was to look at the inter-agency business processes associated with requests for, and responses to, information supporting veterans' compensation claims concerning exposure to chemical weapons and other agents. The project addressed mustard gas, ionizing radiation, agent orange, and *LSD*. Proposed and actual attendees at the meetings, which started in July 1996, were representatives from the Services from the chemical, research, medical, and records management communities. Representatives from various offices and levels from the VA Compensation and Pension Service also were full participants. A copy of the announcement letter is at Tab C6. It includes the original proposed attendee list. The project was overseen by the OUSD P&R Information Management Office.

In January of 1997 the final report of the project was published and widely disseminated in DoD and the VA. The report cited four major problems with human exposure information management:

- Lack of central control in DoD
- Lack of automation support for existing record collections
- Lack of records accountability (retention, storage, archiving)
- Insufficient inquiry information from VA

Various solutions to the problems were proposed and are contained in the report in a matrix that includes cost benefit estimates. One of the solutions was a detailed list of contacts within DoD for specific kinds of information requests on exposures. Appendix C to the report is a detailed list of points of contact within DoD by exposure type, with names and phone numbers, and a short description of the kinds of records held. Tab C7 is a copy of the internal DoD memorandum publishing the final report and an original copy of the *Exposure Records Locator Project Final Report*, dated January 23, 1997.

V Report on Search for Human Radiation Experiment Records 1944 – 1994

Another major report that was published in 1997 was the above named report on human radiation experiment records. This report was published by the ASD for Nuclear and Chemical and Biological Defense Programs. It cited the as the impetus for the record project the search directed by President Clinton. This project was promulgated in DoD by an internal SECDEF memorandum dated January 7, 1994. A copy is in Section B at Tab B8. The report presents an overview of the nuclear test programs and discusses the search for the records and the establishment of the Radiation Experiment Command Center (RECC). A copy of the report is included in this report because the lead at the RECC participated in the Exposure Records Locator Project and the contacts for inquiries on radiation exposures are included in the DoD Points of Contact at Appendix C of the *Exposure Records Locator Final Report*. A copy of the *Report on Search for Human Radiation Experiment Records 1944 – 1994* is at Tab C8.

VI 2003/2004 Detroit Free Press/Duty, Honor, Betrayal

The next major issue that the P&R Information Management IM Office would participate in was the research for a series of articles published in the Detroit Free Press in 2004 by David Zeman. Mr. Zeman contacted the DoD Public Affairs Office in 2003 and requested access to information on, and to personnel who had worked on, the WWII mustard gas testing on humans. Mr. Zeman wrote a three part expose' that included the stories of veterans who had participated personally in the tests, how they were conducted, and what had happened to them during the tests, and how their health had been affected afterwards. The article also discussed the efforts of DoD to locate records and extract names and went on to discuss the response to veterans by the VA. A copy of the transcript of the October 2003 interview of the Project Lead and Director of the P&R IM

Office with Mr. Zeman is at Tab C9. Copies of all three installments of Mr. Zeman's expose' from November 2004 are at Tab C10. An Information Paper, at Tab C11, on DoD Efforts to Identify World War II Chemical Weapons Test Subjects was prepared by the P&R IM Office in November, 2004, probably in response to questions arising from Mr. Zeman's articles.

VI Closing Out 1995 – 2007

In 2005 all of the chemical weapons exposure study files were transferred to the Office of the Assistant Secretary of Defense for Health Affairs under the responsibility of the Program Director for CBRN Assessments (Chemical, Biological, Radiation, and Nuclear) in the Deployment Health Support Directorate. At the time of this report that is Ms. Dee Dodson Morris, at (703)845-8339. Tab C12 is a copy of the DMDC inventory of the Chemical Weapons Exposure Project Files that were transferred to OASD (HA).

In August 2007 the Personnel & Readiness IM Office was contacted by the General Accounting Office in regard to a study being conducted that included efforts and contracts from the Chemical Weapons Exposure Study. On August 10, 2007 the Director, P&R IM had preliminary meeting with GAO Auditors. On September, 11 2007 the Director, P&R IM, and the former Project Lead from the IM Office were interviewed by GAO. The Project Lead met with GAO another two hours assisting with interpretations of and copies of some of the early documentation and correspondence from the Chemical Weapons Exposure Study. GAO was also given a full copy of the CBIAC Chemical Exposure Database dated April 28, 1994 and two early contract documents on the contract with Battelle Corporation. At Tab C13 is a copy of the P&R Information Management Funding History from FY-92 to FY-95, and a Task Order dated April 1994, transferring funding to Battelle Corporation for the Chemical Weapons Exposure Database. Both documents were given to GAO in 2007. Tab C14 is a copy of electronic communication, e-mail and fax, between the author and GAO during the months of August and September 2007.

This report was prepared in September 2007. It is the most current accounting of the Personnel & Readiness IM Office participation and assistance with the Chemical Weapons Exposure Study initiated in 1993 by the Secretary of Defense.

DEPARTMENT OF DEFENSE

**OFFICE OF THE UNDER SECRETARY OF DEFENSE
PERSONNEL & READINESS**

DEPUTY UNDER SECRETARY FOR PROGRAM INTEGRATION

INFORMATION MANAGEMENT OFFICE

CHEMICAL WEAPONS EXPOSURE PROJECT

SUMMARY OF ACTIONS AND PROJECTS

1993 - 2007

SUMMARY FOR 1993



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1993

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SUMMARY FOR 1993

I VETERANS AT RISK

On January 1, 1993 the Institute of Medicine(IOM) released *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite*. This report was initiated by a request from the Department of Veterans Affairs, and was the result of a committee convened to investigate a nexus between specific medical conditions and exposure to mustard gas and/or lewisite. Mustard gas and Lewisite are blister producing (vesicant) agents. There are two types of mustard agents, sulphur mustard and nitrogen mustard. Lewisite is an organic, arsenic containing, compound sharing some of the properties of mustard agents. The major finding of the report was that there were about 60,000 U. S servicemen that had been used as human test subjects at various sites during WWII, including tests in the tropical climate of Panama. Those participants were sworn to secrecy, describing verbal oaths of secrecy often being administered. This oath of secrecy inhibited the test subjects from coming forth and seeking compensation and benefits from the Department of Veterans Affairs (VA) for exposure related conditions.

The following were the general conclusions of the committee:

- The lack of follow-up health assessments of the human test subjects, by their researchers or medical personnel severely limited the amount of information that could be used to determine long term health effects.
- Levels of exposure to agents may have been higher than implied by reports
- There were no studies done on occupational health risks to workers in production, handling (storage and transportation), and chemical weapons training facilities, nor for combat exposures from WWII.
- There were several medical conditions the VA identified as being presumptive of exposure to mustard gas: laryngitis, bronchitis, emphysema, asthma, conjunctivitis, keratitis, and corneal opacities.

An extract from the report is at Tab A1 with a copy of the Table of Contents and the Executive Summary, along with a 1993 article from the Washington Post titled *Getting Burned* written by Tracy Thompson.

II EXECUTIVE AND CONGRESSIONAL REACTIONS TO THE REPORT

Department of Veterans Affairs

On January 5, 1993 the Acting Secretary of Veterans Affairs, Anthony Principi, signed a letter to Secretary of Defense (SECDEF) Dick Cheney citing *Veterans at Risk* and requesting information on the types of tests conducted (patch, chamber or field), the

agent used, and the names, units, and service numbers of personnel who participated in the tests so that VA could attempt to notify them of possible health risks and evaluate them. They also asked for specific information on test participants at Edgewood Arsenal, on exposures that may have been occupational such as storage and handling, and for information on exposures as a result of the Bari Harbor disaster in Italy during December of 1943. In addition he requested that personnel who participated in these secret tests be released from their oaths and expressed a desire for coordination on communicating the release to veterans. A copy of this letter is at Tab A2.

House Committee on Veterans Affairs

On January 22, 1993, Representative G. V. (Sonny) Montgomery, Chairman of the Committee, signed a letter to the new SECDEF, Les Aspin, also citing *Veterans at Risk*. Representative Montgomery's main concerns were the detrimental impact of the oaths of secrecy on the treatment and compensation of veterans who were test subjects, and the noted absence of records that would corroborate veterans' claims of participation in tests or other service related exposures to chemical warfare agents. He requested that information be made available to the VA concerning test sites, units assigned, individual names and service numbers if possible, and dates testing was conducted. He also requested information on facilities that would have led to occupational exposures through production, transportation and storage. In addition, Representative Montgomery directly cited the allegation in the report that a lingering atmosphere of secrecy inhibited the full collection of information for the report. He went as far as describing a letter he, Secretary Aspin (then in Congress) and Representatives Stump and Dickenson sent to SECDEF Cheney requesting information on experiments on service members using LSD, mustard gas, other dangerous chemicals. He characterized the response they received as inadequate, as it did not report any of the information that was reported by the IOM report. A copy of the letter from Representative Montgomery is at Tab A3.

General Accounting Office (GAO)

On February 18, 1993 a GAO Report was released with the title *VETERANS DISABILITY Information From Military May Help VA Assess Claims Related to Secret Tests*. This report not only cited the mustard gas and lewisite tests, but discussed the tests using human subjects that involved the use of nerve agents, nerve agent antidotes, and lysergic acid diethylamide (LSD). The report mentions hearings held in 1991 and actions taken by VA to adjust the criteria for claims for chemical agent test subjects, and mentions the detrimental impact of the gaps in information and documentation in DoD. Recommendations were for collection of necessary information to make compensation determinations and naming points of contact at Army and Navy. A copy of this report is at Tab A4.

The White House

On February 19, 1993, President Clinton signed a letter in response to correspondence from Representative Glen Browder. In his letter President Clinton stated that the VA and DoD were diligently working to identify the affected veterans, and that VA had “relaxed requirements for evaluating mustard gas claims” and had requested DoD release former members from the oath of secrecy. He also stated that he had directed the Secretaries of both Departments to expedite the required actions to deliver benefits and compensation to the affected veterans. A copy of President Clinton’s letter to Representative Browder is at Tab A5.

The Office of the Secretary of Defense

On March 9, 1993 Deputy Secretary of Defense (DEPSECDEF) William J. Perry signed a departmental memorandum on Chemical Weapons Research Programs Using Human Test Subjects. The first statement of this memorandum released persons from oaths of secrecy or non-disclosure restrictions, either written or oral, if they had participated in any testing, production, transportation or storage associated with any chemical research that happened prior to 1968. He also stated he was declassifying documents for chemical weapons research studies conducted prior to 1968 to include the locations of the programs, the kind of tests conducted, and the start and finish dates of each test. He also included identification of units stationed at research sites during testing periods down to name, service or social security numbers, and names of those known to have been test subjects. Declassification was also extended to documents concerning production, transportation and storage of these agents. Secretaries of the Military Departments were directed to fully cooperate in these directed actions and to initiate procedures to carry out the declassification of the specified documents. Information on locations of chemical test sites, agents used, test dates, and any personnel involved were to be collected immediately and provided to OSD by July 31, 1993. Also on March 9, Deputy Secretary Perry signed a letter back to Representative Sonny Montgomery thanking him for his letter about *Veterans at Risk* and forwarding a copy of his 9 March internal memorandum directing the actions cited above. A copy of the March 9, 1993 internal memorandum and the letter back to Representative Montgomery are at Tab A6. A copy of the Department of the Army internal memorandum requiring a comprehensive search for the information requested in the 9 March memorandum is at Tab A7. Since the primary concern was former Service members who were now veterans, oversight for carrying out the DEPSECDEF’s mandates was assigned to the Office of the Assistant Secretary of Defense for Force Management and Policy (OASD(FM&P)). That office is now the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)).

On March 17, 1993 the Deputy Director of Defense Research and Engineering (DDR&E) signed a letter to Secretary of Veterans Affairs Jesse Brown. It stated that DoD would make every effort to assist VA and that areas of assistance would include compilation of the names of personnel, test protocols, and available data for mustard gas

testing for WWII and Edgewood Arsenal in particular. The same would be provided for Lewisite and mustard production and handling, as well as names of personnel exposed during the Bari Harbor disaster. The letter also stated that points of contact for each Military Department would be provided, and referenced the March 9 DEPSECDEF memo in regard to release of former personnel from oaths of secrecy and non-disclosure restrictions. The letter closed with a stated “hope” to provide the information to the VA within that current fiscal year which would have been a target date of September 30, 1993. A copy of this letter is at Tab A8.

III OASD (FM&P) ACTIONS AND REPORTS

OUSD (P&R) Information Management Office

The office in OSD with primary oversight of the Chemical Weapons Exposure Study from 1993 to 1995 was the Information Resources Management Office under the Deputy Assistant Secretary of Defense for Requirements and Resources under the Personnel secretariat. The Office is still under the Personnel secretariat and is the current Deputy Under Secretary for Program Integration (DUSD(PI)). The Information Resources Management (IRM) Office has had several name changes, but is currently the Personnel & Readiness Information Management Office. This office assigned senior personnel to chair task forces and working groups, carry out reviews and analysis of chemical weapons test sites and records repositories, and to be the primary point of contact for inquiries from the office of the Secretary of Veterans Affairs, the Veterans Health Administration, the VA Compensation and Pension Service, Congressional staff, the National Archives and Records Administration, National Personnel Records Center (NPRC) in St. Louis, Missouri, and many of the individual veterans. At any given time there was a GS-15, GS-14 and GS-12 actively working on the project—conducting site reviews and records analysis, collecting names, responding to the VA and to individual veterans, and preparing status reports and compiling the database of names of verified test subjects. In addition to responding to and verifying veterans’ exposures, verification was also done on several civilian exposures since documentation was found that civilian personnel had also been exposed to these agents via occupational activities. One of the major issues that negatively impacted the ability of the VA and DoD to corroborate veteran’s claims was the unavailability of military personnel records that had been destroyed in a major fire at NPRC in 1971. Because of this the IRM Office commenced an immediate review of test sites and records repositories within DoD, particularly the Army and the Navy. Tab A9 contains a list of sites visited in 1993.

Chemical Weapons Exposure Study Task Force

To help respond to the need to locate appropriate information to assist WWII veterans to file compensation and benefit claims for injury and illness resulting from chem/bio exposures, OASD (FM&P) created the Chemical Weapons Study Task Group

(CWEST). This group was comprised of senior personnel from OSD personnel, health and medical, environmental, atomic energy and research communities, as well as the Military Services. The CWEST initiated an interagency task group that met to recommend a specific plan of action to respond to the information needs of the VA to assist veterans, and to the specific directives from the March 9 DEPSECDEF memo. This group was the CWEST members augmented with senior officials from both the Veterans Health Administration (Epidemiology) and the Compensation and Pension Service. The group met on April 19 to develop a plan of action and program of work. The group used as a model the process used by the Defense Nuclear Agency (DNA) to respond to similar issues with personnel affected by the nuclear testing carried out by the U. S. in the Pacific Islands and in Nevada. The group recommended appointment of an Executive Agent and specific tasks for identifying locations and content, declassification actions and issues, compilation of databases on sites and personnel tested. They further recommended actions to halt any destruction of records pertaining to testing, storage, transportation, and handling, and the collection of descriptions of the records collections by the Executive Agent. The work group also recommended that a complete history regarding chemical weapons testing be developed for each site, and listed specific data elements that should be included in both a site level database and a name level data base. A list of CWEST members and a copy of the April 22, 1993 interagency group report, with members, is at Tab A10.

As a result of this April 22 report a Request for Approval of Information Collection was initiated in May, 1993. The request was approved in June 1993, and information collection began shortly thereafter. The request for approval and back up information is at Tab A11, along with the Supporting Statement and draft Federal Register Notice. Since the Department of the Army had oversight of the chemical weapons testing and develop programs, senior leadership proactively went out with a data call in May and early June. A copy of the consolidated Army response, with records collections and cost data, is at Tab A12.

Chemical Weapons Exposure Study Update July 1993

By July 1993 DoD had initiated several working groups and projects to try to locate test sites and records repositories in order to identify test subjects and to find documentation the VA would deem sufficient and reliable in adjudicating veterans compensation claims related to chemical weapons activities. The IRM Office had identified five major sites of chemical testing that used human subjects, for example Edgewood Arsenal in Maryland, and Dugway Proving Ground in Utah. They had also identified seven major sites where field testing was conducted, some of which were no longer in existence, such as Bushnell Field, Florida and Camp Sibert, Alabama where tests were held to determine effects of the chemicals in tropical conditions. The IRM Office had also contracted with the Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC) in Edgewood, Maryland, to compile a site location database. By July there was a preliminary run with 117 entries. They had also collected a large sample of the various kinds of documentation that was found to contain names of

test subjects and volunteers. Some were morning reports, duty rosters, orders of special commendation, and some military personnel medical records that documented treatment for burns and injuries resulting from the tests. Also by July, DoD had been able to start a preliminary Chemical Weapons Exposure Database and had found almost 4,000 names. These names were forwarded to the VA as they were found, the first large list be the test subjects from the Naval Research Laboratory. Also during July a study update was prepared and a briefing was given to staff and members of the House Committee on Veterans Affairs (mostly staff members). A copy of an initial draft of the Chemical Weapons Exposure Study Update is at Tab A13, and the original cover sheet that notes preparation for Congressional briefing was left for integrity of the source material. The report provides samples of the Chemical Weapons Site Location Database being prepared by CBIAC at Tab One. Tab Two is lists of the repositories identified up to that time with samples of the kind of documentation used to identify the repositories such as field reports, a medical report of injury, and excerpts from technical and historical books. Tab Three has information on the preliminary Personnel Database with samples of medical records documenting exposures, temporary duty rosters of officers assigned to a field test site in Panama; and other kinds of personnel and operational paperwork that helped document test participation. Tab Four was a summary of major issues/problems that had arisen during the first six month of the project. A copy of the pared down brief given to Congressional staffers is at Tab A14.

Personal Interface and Response to Affected Veterans

The senior lead for the IRM Office had personal contact with many of the affected veterans and some former DoD civilian employees affected by chemical exposures. This exchange was not only to assist the individuals in obtaining appropriate compensation, it also was an additional source of information other on other sites that tests were conducted, or agents were stored or handled. Communication with these individuals assisted in locating an additional test site at Harts Island in New York; a specific example of a Navy commendation given to individual test participants; location of records archived at a major university library; and verification of official record keeping for occupational exposures of civilian employees (only two contacted OSD during the 1993 time frame). Tab A15 contains short anecdotal summaries of some of the direct veteran and former employee contacts with the IRM Office.

IV Inter-Agency Actions

DoD/VA Non-Medical Benefits Task Force

Secretariat, Executive and other senior level management in both the VA and DoD were kept fully apprised of the activities to respond to the information requirements of the VA set forth in Acting Secretary Principi's letter of January 5 and in the actions directed by the memorandum from Deputy Secretary Perry dated March 9, 1993. This

was done by information papers, briefing books, and in executive meetings such as the DoD/VA Non-Medical Benefits Task Force. The term non-medical in the task force title was to clearly delineate between the ongoing executive level coordination and collaboration between the DoD and VA medical/clinical professionals within the Veterans Health Administration and the Office of the Assistant Secretary of Defense for Health Affairs. Although the Non-Medical Task Force clearly dealt with issues impacting medical benefits, it was to provide force management and protection policies and personnel processes that would clearly assist, augment, and document the promulgation of medical and clinical directives for force health and safety by disseminating and collecting pertinent information. In addition the personnel community collaborated with health and medical to assure that operational and administrative personnel records fully and concisely collected information on Service member activities in and out of theatre that would be used for health and fitness for duty assessments, and for later compensation and benefit determinations by DoD and the VA. In October of 1993 the DoD/VA Non-Medical Benefits Task Force was briefed on the mustard gas and lewisite project and the activities of the CWEST. The principal department leads for the task force were the ASD for Personnel and Readiness (formerly FM&P), and the VA Deputy Under Secretary for Benefits. The ASD (Health Affairs) also sat on this task force as did the DASD Requirements and Resources (R&R), who had lead on the Chemical Weapons Exposure Study. The Executive Secretary for DoD was the Director of the IRM Office, a direct report to the DASD (R&R), and responsible for the management of the study and interface and liaison with the VA. Tab A16 is an extract from the read ahead Briefing Book with the table of contents (chemical weapons exposure is section 7), the list of members and the charter of the DoD/VA Non-Medical Benefits Task Force, and a copy of the minutes from this meeting. Tab A17 is an issue paper titled Chemical Weapons Exposure Study and the proposed 1994 travel schedule for the Study to be conducted by the IRM staff. Both the issue paper and the travel schedule were included in the read ahead briefing book for the October 27 meeting of the DoD/VA Non-Medical Benefits Task Force.

V Radiation Experiments

The Defense Nuclear Agency had oversight of research done that either used human test subjects or resulted in the exposure of military (and civilian) personnel. Tab A10 contains the Nuclear Test Personnel Review Report. At the end of 1993 the issue of human test subjects used in radiation tests again became an issue. On December 30, 1993 a Memorandum for the Special Assistant to the Secretary of Defense was signed by the Assistant Secretary of Defense for Personnel & Readiness. It discusses Army, Navy and Air Force efforts to identify test subjects and records, and mentions the effort to the ongoing Chemical Weapons Exposure Study to locate similar records. The report also cited a concern about locating information on experiments that may have been conducted by other Federal agencies such as Department of Energy, and the National Institute of Health, as well as private contractors to the Federal Government. A copy of the memorandum is at Tab A18.

VI CLOSING OUT THE YEAR

At the end of 1993 the major issues facing the Department of Defense were the same ones reported in the July status report, with the addition of the issue of radiation experiments using human test subjects. The major issues to the Chemical Weapons Exposure Study were as follows:

- The immense costs of full document searches to compile a comprehensive personnel database
- Sensitivity to the content of archived documents
- References to many other tests using biological and other agents, i.e. *LSD*
- Additional 8500 feet of records at Rocky Mountain Arsenal that had not been reviewed
- Large percentage of pre-1970 WWII records destroyed in the fire at the National Personnel Records Center in St. Louis
- The construction of the personnel database being hampered by the geographic dispersion of historical records and files, and interfiling of medical or research records within personnel records with no index or cross reference.

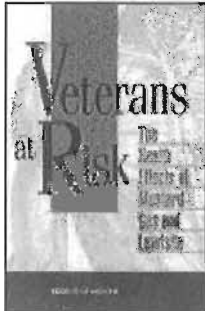


TAB A1

The Institute of Medicine

Board on Population Health and Public Health Practice > Veterans at Risk: The Health Effects of Mustard Gas and Lewisite

REPORTS



Veterans at Risk: The Health Effects of Mustard Gas and Lewisite

Released On: January 01, 1993

Read and Purchase

World War II (WWII) has been called “the unfought chemical war.” Both sides had produced millions of tons of chemical weapons and had made massive preparations for their use, yet the weapons were never used. These preparations included the establishment of secret research programs to develop better weapons and better methods of protecting against those weapons. In the United States, some of this research was focused on the development of protective clothing and skin ointments, which could prevent or lessen the severe blistering effects of mustard agents (sulfur and nitrogen mustard) and Lewisite (an arsenic-containing agent).

By the time the war ended, over 60,000 U.S. servicemen had been used as human subjects in this chemical defense research program, in a wide range of exposures from mild to quite severe. All those undergoing the latter exposure, and some undergoing the former were told at the time that they should never reveal the nature of the experiments. Almost to a man, they kept this secret for the next 40 years.

Public attention was drawn to these experiments when some of the WWII human subjects began to seek compensation from the Department of Veterans Affairs (VA) for health problems that they believed were caused by their exposures to mustard agents or Lewisite. Resolution of these cases was complicated by a lack of records documenting individual participation in the experiments, and uncertainty as to which health problems were in fact the result of these exposures.

In June 1991 the VA announced guidelines for the handling of these cases, including the loosening of normal requirements for documenting individual participation in the experiments, and the identification of seven diseases to be considered as caused by mustard agents or Lewisite. In addition, the VA requested that the Institute of Medicine (IOM) convene a committee to assess the strength of association between exposure to these agents and the development of specific diseases. The committee was also charged with identifying the gaps in the literature, and making recommendations as to closing them.

General Conclusions

- The lack of follow-up health assessments of the human subjects in the WWII gas chamber and field tests severely diminished the amount and quality of information that could be applied in the assessment of long-term health consequences of exposure to mustard agents and Lewisite.
- The levels of exposure to mustard agents and Lewisite may have been much higher than inferred in the summaries of the gas chamber and field tests.
- There were no epidemiologic studies done of mustard-agent exposed U.S. chemical weapons production workers, war gas handlers and trainers, or combat casualties from WWII.

Last Updated: 8/06/2003, 06:00 PM

RSS

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Description

Recently, World War II veterans have come forward to claim compensation for health effects they say were caused by their participation in chemical warfare experiments.

In response, the Veterans Administration asked the Institute of Medicine to study the issue. Based on a literature review and personal testimony from more than 250 affected veterans, this new volume discusses in detail the development and chemistry of mustard agents and Lewisite followed by interesting and informative discussions about these substances and their possible connection to a range of health problems, from cancer to reproductive disorders. The volume also offers an often chilling historical examination of the use of volunteers in chemical warfare experiments by the U.S. military--what the then-young soldiers were told prior to the experiments, how they were "encouraged" to remain in the program, and how they were treated afterward.

Executive Summary

BACKGROUND

World War II (WWII) has been called "the unfought chemical war." Both sides had produced millions of tons of chemical weapons and had made massive preparations for their use, yet the weapons were never used. These preparations included the establishment of secret research programs to develop better weapons and better methods of protecting against these weapons. In the United States, some of this research was focused on the development of protective clothing and skin ointments, which could prevent or lessen the severe blistering effects of mustard agents (sulfur and nitrogen mustard) and Lewisite (an arsenic-containing agent).

By the time the war ended, over 60,000 U.S. servicemen had been used as human subjects in this chemical defense research program. At least 4,000 of these subjects had participated in tests conducted with high concentrations of mustard agents or Lewisite in gas chambers or in field exercises over contaminated ground areas. The human subjects had experienced a wide range of exposures to mustard agents or Lewisite, from mild (a drop of agent on the arm in "patch" tests) to quite severe (repeated gas chamber trials, sometimes without protective clothing). All of the men in the chamber and field tests, and some of the men in the patch tests, were told at the time that they should never reveal the nature of the experiments. Almost to a man, they kept this secret for the next 40 or more years.

Public attention was drawn to these experiments when some of the WWII human subjects began to seek compensation from the Depart-

ment of Veterans Affairs (VA) for health problems that they believed were caused by their exposures to mustard agents or Lewisite. Two factors complicated resolution of these cases. First, there were often no records or documentation available of an individual's participation in the testing programs. Second, there was a great deal of uncertainty about which health problems were in fact the result of mustard agent or Lewisite exposure.

In June 1991 the VA announced guidelines for the handling of these cases. These guidelines included the loosening of normal requirements for documenting the individual's participation in the experiments and the identification of seven diseases that the VA would consider to be caused by mustard agents or Lewisite. These seven are asthma, chronic bronchitis, emphysema, chronic laryngitis, corneal opacities, chronic conjunctivitis, and keratitis (of the eye). In addition, the VA requested that the Institute of Medicine convene a committee to survey the scientific and medical literature in order to assess the strength of association between exposure to these agents and the development of specific diseases. The committee was also charged with identifying the gaps in the literature and making recommendations relevant to closing those gaps. This report details the committee's findings and recommendations.

Between October 1991 and August 1992, almost 2,000 scientific papers, technical reports, and other documents were reviewed by the committee. The experimental protocols used in the WWII testing programs were examined to assess the potential dose levels experienced by the experimental subjects. In addition, the committee consulted with a variety of outside experts and sought information from the affected veterans themselves, through a public hearing process that resulted in written or oral statements from over 260 veterans regarding their exposures to these agents and subsequent health problems.

The committee found large gaps in the literature pertaining to the long-term health effects of exposure to mustard agents and Lewisite. For many diseases, very little or no work had been done in the eight decades following the first use of sulfur mustard in World War I. Almost all of the work in the United States had been conducted or funded by chemical defense sections of the military and was concerned only with the acute effects of these agents and not with their long-term effects. As a result, the committee depended heavily on occupational studies of chemical weapons production workers in other countries, on what could be found on battlefield casualties, and on what was known about the effects of nitrogen mustard derivatives that have been used since WWII as cancer chemotherapy agents. In addition, the committee carefully considered the basic scientific data available regarding the biological mechanisms of tissue damage from mustard agents and Lewisite.

Special attention was directed at estimating the dose levels to which the experimental human subjects had been exposed in gas chambers or field exercises. In these experiments, subjects wore varying amounts of the protective clothing being tested, as well as gas masks. In the chamber tests, human subjects were required to enter gas chambers repeatedly for an hour or more per trial, until, after a number of trials, their skin showed evidence of chemical burns (erythema)—an indication that the agents were penetrating the protective clothing. In the field tests, the agents were dropped over large tracts of land, and human subjects, wearing clothing being tested, were sent into those areas for varying amounts of time. Penetration of the agents through the clothing was assessed in these tests in the same manner as in the chamber tests.

GENERAL CONCLUSIONS

The committee reached the following conclusions on the basis of its analysis of the experimental protocols:

- The lack of follow-up health assessments of the human subjects in the WWII gas chamber and field tests severely diminished the amount and quality of information that could be applied in the assessment of long-term health consequences of exposure to mustard agents and Lewisite.

- The levels of exposure to mustard agents or Lewisite experienced by the human subjects may have been much higher than inferred in the summaries of the gas chamber and field tests.

The lack of follow-up of these subjects particularly dismayed the committee for a number of reasons. For example, the end point of the chamber and field tests was tissue injury, but it was already known by 1933 that certain long-term health problems resulted from sulfur mustard exposure. Further, it was documented that numerous subjects suffered severe injuries that required up to a month of treatment. Finally, the exposure levels were sufficiently high that even the most efficient gas mask would have leaked enough mustard agent or Lewisite to cause inhalation and eye injuries.

- The committee was additionally dismayed that there were no epidemiological studies done of mustard agent-exposed, U.S. chemical weapons production workers, war gas handlers and trainers, or combat casualties from WWII.

Tens of thousands of people (military and civilian) worked in U.S. arsenals that produced mustard agents, Lewisite, and other chemicals. Exposure levels in these facilities were often quite high, as evidenced by the number of injuries reported and by the poor safety record of the

Chemical Warfare Service during the peak years of production. Many other servicemen were trained to handle the gases or were assigned to jobs that put them in contact with mustard agents or Lewisite. A German bombing attack on the harbor of Bari, Italy, released sulfur mustard from a damaged American ship into the water and atmosphere, resulting in thousands of injuries and hundreds of deaths. Yet no follow-up studies were done with any of these groups; the committee had to rely instead on occupational studies from Japan and Great Britain for data on World War II production workers and their long-term health problems.

SPECIFIC FINDINGS

The following is a summary of the major conclusions reached by the committee regarding the association of exposure to mustard agents or Lewisite and the development of specific diseases in different organ systems. Much more is known about mustard agents than is known about Lewisite. Thus, the following summary pertains to mustard agents, except when Lewisite is indicated.

The findings generally fall into one of three categories. In some cases, the data examined were found to indicate a *causal* relationship between exposure and a particular disease. For a few diseases, the data were *suggestive* but not completely clear. Finally, there were many diseases for which very little or no data existed regarding the possible contributions of exposure to mustard agents or Lewisite. This means that many diseases in this category may (or may not) be caused by mustard agents or Lewisite, but no study has been done. It is important to emphasize that *no condition evaluated could be removed from consideration as a health consequence of exposure to these agents*. Thus, for many diseases there remains significant doubt.

The evidence found indicated a causal relationship between exposure and the following health conditions:

- Respiratory cancers
 - Nasopharyngeal
 - Laryngeal
 - Lung
- Skin cancer
- Pigmentation abnormalities of the skin
- Chronic skin ulceration and scar formation
- Leukemia (typically acute nonlymphocytic type, nitrogen mustard)
- Chronic respiratory diseases (also Lewisite)
 - Asthma

- Chronic bronchitis
- Emphysema
- Chronic obstructive pulmonary disease
- Chronic laryngitis
- Recurrent corneal ulcerative disease (Includes corneal opacities; acute severe injuries to eye from Lewisite will also persist.)
- Delayed recurrent keratitis of the eye
- Chronic conjunctivitis
- Bone marrow depression and (resulting) immunosuppression (An acute effect that may result in greater susceptibility to serious infections with secondary permanent damage to vital organ systems.)
- Psychological disorders
 - Mood disorders
 - Anxiety disorders (including post-traumatic stress disorder)
 - Other traumatic stress disorder responses (These may result from traumatic or stressful features of the exposure experience, not a toxic effect of the agents themselves.)
- Sexual dysfunction (Scrotal and penile scarring may prevent or inhibit normal sexual performance or activity.)

The evidence found suggested a causal relationship between exposure and the following health conditions:

- Leukemia (acute nonlymphocytic type, sulfur mustard)
- Reproductive dysfunction (genotoxicity, mutagenicity, etc.; mustard agents)

There was insufficient evidence found to demonstrate a causal relationship between exposure and the following health conditions:

- Gastrointestinal diseases
- Hematologic diseases
- Neurological diseases
- Reproductive dysfunction (Lewisite)
- Cardiovascular diseases (Except for those that may result from serious infections shortly following exposure—heart disease resulting from rheumatic fever, for example.)

RECOMMENDATIONS

There are large gaps in all areas of the knowledge base about the long-term health risks associated with exposure to mustard agents and Lewisite. For example, very little is known about the long-term effects on specific organ systems from studies in animals. The data from human studies lack precise information about the exposure levels in occupational settings. After consideration of these gaps in light of the commit-

tee's findings regarding the probable long-term health effects of exposure to these agents, as well as the likely exposure levels to the human subjects involved, the committee formulated the following recommendations.

The committee recommends that the Department of Veterans Affairs (VA) institute a program to identify each human subject in the WWII testing programs (chamber and field tests, and to the degree possible, patch tests), so that these individuals can be notified of their exposures and the likely health risks associated with those exposures. Further, all subjects so identified, if still living, should be medically evaluated and followed by the VA as to their health status in the future. These individuals should also, if they request it, be treated by the VA for any exposure-related health problems discovered. Morbidity and mortality studies should be performed by the VA, comparing chamber, field, and patch test cohorts to appropriate control groups, in order to resolve some of the remaining questions about the health risks associated with exposure to these agents.

The only way to answer some of the key remaining questions is to establish a base of knowledge based on human exposures. There is precedent in the later identification and follow-up of veterans exposed to chemicals, including hallucinogenic drugs, in other military testing programs.

The committee is well aware that a half century has now passed and that many of those who might have benefited from a broader understanding of the toxicity and carcinogenicity of mustard agents and Lewisite are already dead. Nevertheless, their surviving family members deserve to know about the testing programs, the exposures, and the potential results of those exposures. For those veterans still living, diseases such as skin and lung cancer may still appear, and full knowledge of their likely cause might well save their lives.

In the case of the human subjects of the WWII testing programs, it is reasonable to assume that secrecy, uncertainty, and fear may have resulted in adverse psychological effects for the veterans and their families.

The committee recommends that careful attention be paid by health care providers to the special problems and concerns of the affected veterans and their families. This attention may include the convening of a special task force of experts in stress disorders and risk perception to aid the VA, further than this

committee is able, in the establishment of comprehensive guidelines for handling of these cases.

These recommendations are not meant to ignore the fact that thousands, probably tens of thousands, of other military and civilian personnel were exposed to mustard agents and Lewisite in occupational and training settings, and in combat in the Bari harbor disaster. Some of these exposures will have resulted in one or more of the exposure-related health problems identified in this report; and, in fact, some military personnel who served in the Chemical Warfare Service have qualified for service-connected disability as a result of such exposures. However, many more military personnel were exposed to significant levels of mustard agents or Lewisite than is obvious from service records.

The committee additionally recommends that the Department of Defense (DoD) should use all means at its disposal, including public channels, to identify former chemical warfare production workers (military or civilian) and individuals exposed to mustard agents or Lewisite from gas handling, training, the Bari harbor disaster, or other circumstances. Records of former military personnel could be turned over to the VA for notification, inclusion in morbidity and mortality studies, and health status evaluation. Records of the civilian personnel should be used by the DoD to advise former workers as to their health risks and options for seeking appropriate compensation for any illnesses that resulted from their exposures.

This committee discovered that an atmosphere of secrecy still exists to some extent regarding the WWII testing programs. Although many documents pertaining to the WWII testing programs were declassified shortly after the war ended, others were not. Of those declassified, many remained "restricted" to the present day and, therefore, not released to the public. As a result, the committee often had great difficulty obtaining information. For example, only one of the three major chamber test locations, the Naval Research Laboratory, freely shared technical reports and detailed summaries with the committee from the beginning of the study. For other locations, such information arrived only as the study was in its final stages, despite months of requests and inquiries to a variety of offices. The committee is certain that other relevant information exists that was never obtained. It is also clear that there may be many exposed veterans and workers who took an oath of secrecy during WWII and remain true to that oath even today. Even as this report was going to press, veterans were still contacting the committee for information, having just heard about the study and

thinking it might now be permissible to reveal their experiences. This continuing secrecy, in the committee's view, has impeded well-informed health care for thousands of people.

The committee recommends that the VA and DoD publicly announce and widely advertise that personnel exposed to mustard agents or Lewisite during their service are released from any oath of secrecy taken at the time. In addition, professional educational materials should be prepared by the VA or DoD, or both, and made available for physicians who may be treating affected individuals. These materials should incorporate the latest information regarding the long-term health effects of exposure to mustard agents and Lewisite.

There is no doubt that the long-term health consequences of exposure to mustard agents or Lewisite can be serious and, in some cases, devastating. This report has demonstrated that complete knowledge of these long-term consequences has been and still is sorely lacking, resulting in great costs to some of those exposed in WWII. The lack of knowledge, however, has ongoing ramifications as nations will probably continue to use these chemical weapons in battle or begin to grapple with their disposal. Thus, accidental and deliberate human exposures to mustard agents and Lewisite can only be expected to continue in the foreseeable future.

Getting Burned

WASH. POST 3/7/93

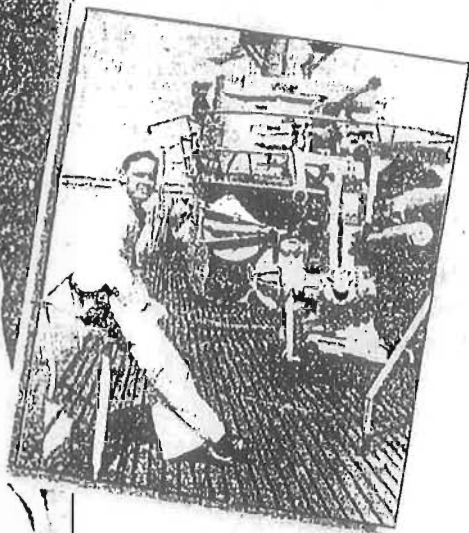
A Look Back at the Navy's Mustard-Gas Experiments. It's Enough to Make You Sick.

By Tracy Thompson
Washington Post Staff Writer

The gas came boiling out of a pipe near the ceiling in the small, square room at the Naval Research Lab in Anacostia, and the men inside, wearing canvas suits and gas masks, watched it come. It was the winter of 1944, and the young recruits, some only 16, had volunteered to test "summer clothing" for the Navy. They are old now, and many are sick, but they all remember watching the gas drift down—a dreamy white mist, like artificial snow.

They knew by then it was mustard gas, but they didn't panic. Even when it stung their skin and seared their throats, got down in the sweaty parts between their legs and burned their testicles, even when their gas masks leaked and they threw up in them but didn't dare take them off and found the only door was locked from the outside—even then, they thought it was only an inconvenience, just another disagreeable wartime duty. No one imagined he might be facing years of chronic illness, or that for nearly 50 years the government would say that nothing like that had ever happened.

This is about the betrayal of U.S. servicemen, who were victims of what a committee of scientific advisers recently called a pattern of "lies and half-truths." The wrong done to



them is only now being righted by the Defense Department and the Department of Veterans Affairs, after years of public denials that wartime experiments with mustard gas ever happened. This is also a cautionary tale about what goes awry, even in this country, when science is asked to serve the ends of war.

The public first heard about the Navy's World War II mustard gas experiments in the summer of 1991, when a group of veterans from Florida succeeded in getting their stories publicized through Florida Rep. Porter Goss and "60 Minutes." The issue got a brief flurry of attention then, and again last spring when hearings were held on Capitol Hill. But so far interest has been concentrated among veterans' groups and states with disproportionately high numbers of military retirees, especially in the South.

But the issue is not a local one; tens of thousands of people, servicemen and civilians, may have suffered long-term health effects of mustard gas exposure, many without

The Toll on Servicemen

MUSTARD GAS, From F1

personnel took part in field tests at Maryland's Edgewood Arsenal, and in Alabama and Illinois. There were also thousands of civilian factory employees who made mustard gas for the military. A report issued in January by the National Academy of Sciences estimates that as many as 60,000 servicemen and an unknown number of civilians may have been exposed to mustard gas during the war, either deliberately or in the workplace.

The long-term effects of mustard gas can be debilitating: emphysema, respiratory tract cancers, immune system disorders such as leukemia, recurrent skin cancers. Some of those effects have been known since World War I; many of them were well known

to the Defense Department's Chemical Warfare Service, which conducted the gas chamber tests in 1944.

But the recruits who took part in the 1944 experiments say they didn't know—that they volunteered after they heard misleading explanations of the tests and were promised a week's leave if they took part. Some say they were ordered to participate. And they were sworn to secrecy, sometimes with vivid descriptions of how long they would serve in Leavenworth for treason if they talked. Some veterans may have literally taken their secret with them to the grave; a spokesman for Goss said his office sometimes gets death certificates from families who are only now beginning to wonder if a relative with chronic health problems

may have suffered from mustard gas exposure.

"Here's a group of doctors dealing with a group of 17-year-old boys who don't know any better, who are just obediently doing what they're told," said Clark Dendy. "They used us."

Dendy sits in a chair beside a window in the dining room of his modest frame house. He is 66 now, an easygoing man who lives with his wife in a working-class suburb of Atlanta and works part-time as a maintenance man for a nursing home. In 1944 he was 17, a Georgia farm boy eager to get into the fray before the war ended. A picture taken about that time shows him leaning against a ship rail, his expression mild and guileless. Except for the uniform, he looks like a sophomore on his way to math class.

Dendy rolls up his sleeves, exposing his forearms.

"Feel," he says. It feels nothing like human skin. It feels like birch bark, or sandpaper. It's all scar tissue, Dendy explains, the residue of the hundreds of skin cancers he has had removed from the area burned by mustard gas in 1944. The melanomas are more than unsightly; they are fast-growing cancers that can prove fatal if left untreated.

For years, his doctors told him the melanomas were caused by too much sun, so he wore long sleeves even in the hottest weather. The idea of mustard gas's having anything to do with it never occurred to him. He never mentioned it to his doctor. For years, he paid his medical bills out of his own pocket or with private health insurance.

But the suntan theory didn't make sense. He could never figure out why his face and neck, which were much more exposed, never developed any cancers. Then, almost a year ago, he read something about the hearings on Capitol Hill and suddenly things began to make sense.

"They called this volunteering for it," he said. "You take a boy from the country and somebody says, 'Hey, would you like to go home for another week?' and what does he do? You don't think the Navy is going to hurt you."

Two months ago, Dendy applied for partial military disability benefits. The Department of Veterans Affairs is considering his claim. As of Jan. 6, said Donna St. John, a department spokeswoman, the agency had received 295 claims and approved 59; the others are pending.

A hearing set for this Wednesday before a subcommittee of the House Veterans' Affairs Committee will consider expanding benefits available to mustard gas survivors. But simply notifying the appropriate veterans may be a difficult problem, since the tests were conducted for the most part in secrecy and records were lost, destroyed or so poorly kept they are nearly useless.

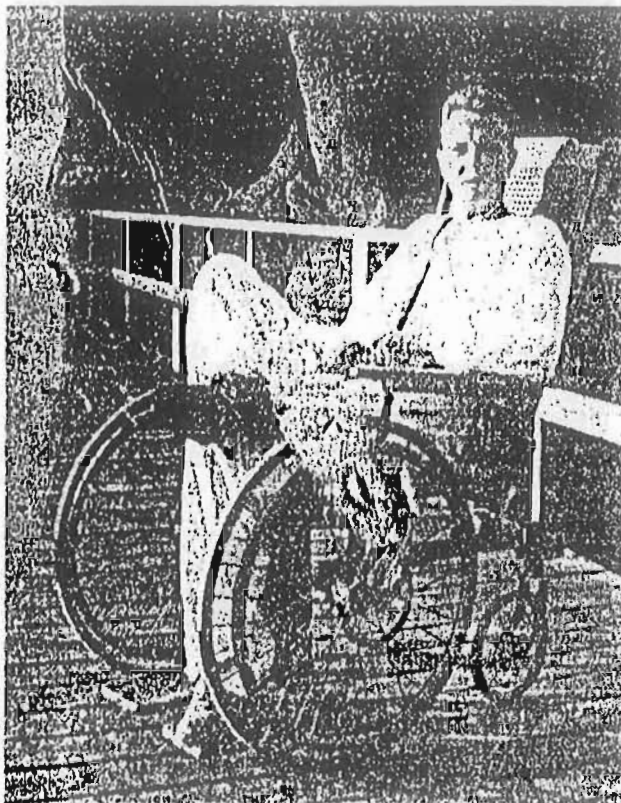
"To actually track the people down is going to be a monumental job," said St. John. The agency has recently launched an 18-month project to do so, sleuthing through records of all Navy recruits who went through basic training at Bainbridge, Md., where most of the volunteers were drawn from, and trying to match those names with the incomplete records from the Naval Research Lab.

Finally, it seems, someone is paying attention.

"I have directed both Secretaries [of Veterans Affairs and the Department of Defense] to expedite the process of locating, treating and providing other benefits that these loyal citizens have earned," President Clinton wrote in a letter last month to Rep. Glen Browder (D-Ala.). The effort, wrote the president, would "not be treated as business as usual."

Moreover, the Navy of 1993 is not the Navy of 1944.

"The Navy recognizes that no mat-



Allan Pervis in 1945 at the hospital in Pearl Harbor.

ter how important the research, the use of Navy people to test protection against noxious gases was not appropriate. We no longer do such tests, or any research which puts our people at such risk," said Rear Adm. Kendall Pease, the Navy's chief of information, in a statement issued this week.

Dendy is glad for that. But he can't help but think of the thousands of dollars he has spent, money he surely could have used. He is a decent, easy-going man, so his anger is muted, almost diffident.

"I wasn't burned as bad as some of the others," he said. "One guy, his back turned solid black. . . . I remember feeling so sorry for some of those fellows."

The acrid odor hit him as soon as he got off the bus at the Naval Research Lab, Nathan Schnurman remembers. It was January 1944, and Schnurman recalls a bleak landscape, "two Quonset huts and bare trees in every direction." One of the huts had some army cots and blankets and a pot-bellied stove. The other was the testing chamber—more like a large sauna, a 10-by-15-foot windowless room with piped-in heat and water to help researchers duplicate the tropical weather of the South Pacific.

World War II was winding down in Europe, but it still raged in the Pacific. Conventional military wisdom held that the Allies would have to mount a D-

ay-like invasion of Japan after fighting their way across the South Pacific—an endgame stage of the war during which the Japanese could be expected to use every weapon they had, including mustard gas.

The Army wanted to be ready. Specifically, it wanted to know what kinds of protective suits and gas masks worked best, and how long they would work before they started to leak. That required human volunteers—but veteran Army commanders who could vividly remember the chemical warfare battles of World War I balked at using Army men. And so, according to memoranda, the Chemical Warfare Service asked the Navy for volunteers. Getting them wasn't difficult.

"When the men first begin their work, they should not be told too much," says a Navy memo dated Dec. 22, 1943. "If they are, this sets up a fear reaction. . . . After the first two runs in the chamber, the men become veterans and can be told almost anything."

Schnurman, a Charles City, Va., native who still lives there today, was a Navy recruit who had just finished basic training at Bainbridge. He remembers hearing something about getting extra leave for volunteering to test "summer clothing," which in January sounded really attractive.

"Bainbridge was cold as blue blazes," he said. "I thought they'd certainly

See MUSTARD GAS, P6, Col 1

send us to Florida or Georgia or someplace where the sun shines."

Allan Pervis, who today lives on the other side of Atlanta from Dendy and who was in the tests several months before Dendy and Schnurman, doesn't even remember being asked. The first thing he knew, he said, he was in a line of men. Last names beginning with A-K went one way, he said, and the L-Zs went another.

"I don't think I volunteered," he said. "When they gave you an order, you had to follow it."

The "summer clothing" consisted of gas masks and canvas protective gear, some with long sleeves and hoods and others designed like overalls that left shoulders and arms bare. Some suits had been used dozens of times and were never washed before they put them on. By the time they arrived at the Anacostia test site, the veterans knew they would be testing protective chemical warfare gear. But buoyed by patriotism and bravado, few balked.

"Most of us at the time were 17 years old," Pervis said. "A 17-year-old will do anything."

Inside the sweltering room, the men saw a four-inch pipe near the ceiling, where the gas came out.

"You could look up and see it and it would start settling down on your body, and then it would be all over the floor," said Pervis. "It was hell. There was no place to sit. . . . Some people sat on the floor, but the floor seemed wet, so I never sat on the floor."

The gas was either sulfur mustard, known as mustard gas because of its pungent, garlicky smell, or Lewisite, a chemical warfare agent that contains arsenic and has been mixed with mustard gas on the battlefield.

Mustard gas produces skin blisters on contact, especially in body folds where perspiration accumulates. It is absorbed slowly, and damages the lining of the respiratory and gastrointestinal tracts. Lewisite is more readily absorbed through the skin, and does especially devastating damage to moist tissues like the eyes and mucous membranes.

"I got burned on the third or fourth day," Pervis recalled. "My suit went kaplooe. I got gas in my mask. I threw up in my mask, and they wouldn't let me out." At the end of the allotted hour, he said, "they looked at me and said I was through. I remember sitting down in the cold. My skin was stinging, sort of. I was just sick. It made me so sick."

skin around his wrist, where the gas had penetrated his suit. The burns on his forearms were painful, but not as visible, he said. He went on to serve two more years in the Navy without incident, and didn't start having trouble with the melanomas on his arms until several years after his discharge.

Pervis was not so lucky. "I had lost my voice. I was red as a beet all over—my chest and between my legs, and my legs," he said. He spent the rest of his Navy career in and out of military hospitals, plagued by permanent laryngitis, shortness of breath and unexplained fainting spells. Years of poor health followed. At times, his wife, Elyse, has supported the family.

Schnurman also came down with pneumonia at the time, and suffered years of lung problems. Both he and Pervis now get disability checks from the Department of Veterans Affairs—roughly \$1,000 a month for Schnurman and \$393 a month for Pervis. Pervis thinks he is entitled to more.

"In the 1950s and 1960s I had pneumonia constantly," he said. "I've had skin problems. My liver was damaged and I turned yellow with jaundice. . . . It makes me angry, that they would take a 17-year-old boy and run him through this, and put him in harm's way. They have ruined my health. . . . I was a football player when I went [into the Navy], and I haven't been worth a darn since. I could have been a wage producer, a big taxpayer."

So far, the Department of Veterans Affairs has identified seven illnesses for which veterans of the mustard gas experiments can claim benefits: asthma, laryngitis, chronic bronchitis, emphysema and various disease of the eye involving corneal opacities or scar tissue. The National Academy of Sciences report last January recommended that list be expanded to 14 disorders—and for the first time, included in the list psychological disorders such as post-traumatic stress disorder.

But Richard Rawls, a veteran from Stone Mountain, Ga., has so far failed to qualify for any benefits. His problem, he said, is that he was in the gas

Wartime Experiments

chamber with a severe case of athlete's foot—with lesions in the skin that he believes allowed the mustard gas to enter his body. He has had persistent problems with his foot and his liver ever since, as well as recurrent skin cancers in his mouth, he said. So far, the VA has denied all his claims for benefits.

"For 48 years, I've always taken care of my skin, my liver, my foot, at my own expense," said Rawls, a retired businessman. "I've spent six figures dealing with doctors. And private insurance companies couldn't deal with it, because they said it was a preexisting condition."

All four men—Rawls, Pervis, Schnurman and Dendy—describe themselves as patriots, and all of them say that, given the chance, they would volunteer again to perform a service for their country. All they wanted in 1944, they said, was to be told the truth; all they want now, said Pervis, is to "live without fear of economic crisis compounded by ill health."

The mustard gas experiments in 1944 violated a basic rule of scientific research, which is that no one may be forced to take part in a medical experiment, or tricked into taking part, and that anyone who does participate must be told everything there is to know about the risks he faces.

"The subjects were deceived. That's number one," said Jay Katz, professor of law, medicine and psychiatry at Yale Law School and an authority on the ethics of human experimentation. "Sec-



Dendy and Pervis, WWII veterans exposed to mustard gas.

ond, these persons were told they must not talk about these experiments. . . . They were subsequently abandoned to possible medical complications. I think that is unpardonable."

This was not an isolated incident. Since World War II, other examples of human experimentation by government agencies have come to light: the atomic bomb tests in Nevada in the 1950s, which exposed as many as 11,000 Army servicemen to potentially lethal amounts of radiation; the LSD experiments conducted by the CIA in

the 1960s and 1970s, involving federal prisoners.

The Navy experiment was not unusual, and the field of inquiry was legitimate, said Dr. David Rall, retired director of the National Institute of Environmental Health Sciences. Rall chaired the National Academy of Sciences committee that issued the report on mustard gas.

"I have great trouble being judgmental about what happened during the war," he said. "You can make the case that if there ever had been a mustard gas attack, these guys would have

been better prepared"—and that their experiences would have increased the survival odds for thousands of their comrades.

"The betrayal was in not following up—in not saying, 'Okay, guys, you may have been hurt, but that was war, and now that it's over, let's help you.'"

"That's where I think the real betrayal was."

==

Rawls, Dendy and Pervis sit around a table in a downtown Atlanta hotel, lingering over coffee and the dessert buffet. Elyse Pervis, Allan's wife, is at the end of the table, looking smart in a black beret and sometimes finishing her husband's sentences for him. The three men started keeping in touch with each other last year, after Rawls made the Atlanta newspapers by testifying at the Capitol Hill hearings.

"We're going to try to find anybody else in this area, and have regular meetings, maybe go for lunch," said Dendy. "Just try to keep this alive. I don't really want to benefit from this. I just want to take part in exposing this."

It's surely a start. Any truly successful effort to find and compensate victims will depend on the energy of little networks like this one. But such efforts are in their infancy, and all sorts of problems loom. Even these three men, willing allies who wish each other well, aren't in agreement on how to proceed. Rawls leaves the table first, pleading the press of business; although he is retired, he works part-time for the Atlanta Braves. He is careful to stress that he is not applying for any disability benefits. It is a point of pride with him; he is quite able to support himself, he says. All he wants, as a matter of principle, is compensation for the years of medical expenses he has borne on his own.

But Pervis and Dendy are applying for disability benefits. To them, the issue is financial security. So they are lobbying for the same cause, but they want different things. Will that hurt their efforts? It's hard to tell.

Lunch winds down. The talk shifts to wartime reminiscences, and it is clear that for Dendy and Pervis World War II was, among other things, a great adventure. Dendy recounts with pride that he was on the first submarine into Tokyo Bay after the bombing of Hiroshima and Nagasaki. Most of Pervis's time in the Navy was spent touring Navy hospitals, from Honolulu to Miami. But the accommodations were great, he grins. Once the Navy even picked him up at the dock in a new Packard ambulance.

They talk well into the afternoon, just two of hundreds of men across the country, old and infirm, with a grievance against the government for an injustice committed before most Americans were born. They seem a little fragile and brittle with age, like the pages in the two pocket diaries Dendy found not long ago in his old Navy sea bags. The books contain the names of other sailors who volunteered for the experiments, chronicled in Dendy's careful high-school script, along with their 1944 addresses.

It isn't much to go on, but it is something. Still, Dendy hasn't decided what he is going to do with it. Where do you begin? How many of them are dead? How many soon will be? And of the rest, how many can prove that what ails them is the result of mustard gas and not the ordinary betrayal of age?

So for now, Dendy is keeping his diaries, while he waits to see what the government will say about his benefits. He is hopeful, he says. He trusts the government to do the right thing.



TAB A2



January 5, 1993

The Honorable Dick Cheney
 Secretary of Defense
 The Pentagon
 Arlington, Virginia 20301-1155

Dear Mr. Secretary:

I am writing in regard to the report entitled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite" to be released on January 6, 1993. I received an advance briefing on this National Academy of Sciences (NAS)-Institute of Medicine report on December 16, 1992, at which time I urged the Academy to brief your Department on the study since many of the recommendations involve the Department of Defense (DoD). I am pleased the Academy briefed Assistant Secretary of Defense for Health Affairs Enrique Mendez, Jr., M.D., his immediate staff, and certain VA staff on its findings and recommendations on December 29. At that time the NAS provided Dr. Mendez an embargoed copy of the full report, an executive summary of which is enclosed.

It is my understanding that at the meeting Assistant Secretary Mendez advised the Academy that DoD would need time to study the entire report and would do so with eye toward making every effort to carry out the Academy's recommendations.

In the meantime, VA is planning to begin carrying out many of the recommendations directed to this Department. Concerning our responsibilities, I am seeking DoD's assistance in the following areas:

a. Personnel Tested. Regarding the recommendation on page 6 of the NAS report, VA requests the names, service numbers and military units, by test site, of military personnel in World War II testing programs (chamber and field tests and, to the degree possible, patch tests). Please identify the type of test for each person tested and the agent used, including whether it was nitrogen mustard or sulfur mustard. VA will then make every effort to obtain through various official channels the subjects' current addresses and notify them of the possible health risks associated with their exposures, evaluate them medically, and, as appropriate, include them in morbidity and mortality studies.

Further, beyond the NAS report, we request the names, service numbers, type of tests and whether nitrogen mustard or sulfur mustard for 147 service members who were exposed to mustard agents at Edgewood Arsenal between 1955 and 1965. (Please see attached excerpt from "Possible Long-Term Effects of Short-Term Exposure to Chemical Agents," published by the National Academy of Sciences Press, Washington, D.C., 1985.)

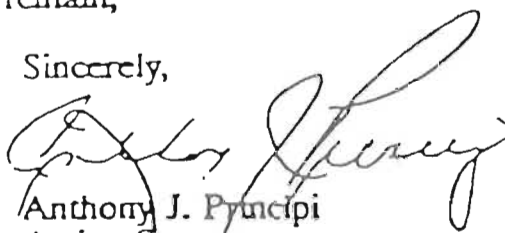
b. Other Type Exposures. Regarding the recommendation on page 7 of the NAS report, VA requests the names, serial numbers, and duty stations of former active duty military chemical warfare production workers exposed to mustard agents or Lewisite through gas handling or training or through the Bari, Italy, harbor disaster or other circumstances. Please describe the circumstances of exposure and the specific agent, including whether nitrogen mustard or sulfur mustard, for each person identified.

c. Relief from Oath of Secrecy: Page 8 of the NAS report recommends that VA and DoD publicly announce that personnel exposed to mustard agents or Lewisite during their service are released from any oath of secrecy taken at that time. We request that DoD release the personnel involved in this testing from their oath of secrecy. VA will work together with DoD to communicate this release to our veterans.

VA looks forward to working with DoD on this very important matter.

With kind personal regards, I remain,

Sincerely,



Anthony J. Principi
Acting Secretary

Enclosures

cc: Assistant Secretary of Defense for Health Affairs



TAB A3

DEMOCRATS

G.V. (SONNY) MONTGOMERY, MISSISSIPPI
DON EDWARDS, CALIFORNIA
DOUGLAS APPLEGATE, OHIO
LANE EVANS, ILLINOIS
TIMOTHY J. PENNY, MINNESOTA
J. ROY ROWLAND, GEORGIA
JIM SLATTERY, KANSAS
JOSEPH P. KENNEDY II, MASSACHUSETTS
GEORGE E. SANGMEISTER, ILLINOIS
JILL L. LONG, INDIANA
CHET EDWARDS, TEXAS
MAXINE WATERS, CALIFORNIA
BOB CLEMENT, TENNESSEE
BOB FILNER, CALIFORNIA
FRANK TEJEDA, TEXAS
LUIS V. GUTIERREZ, ILLINOIS
SCOTTY BAESLER, KENTUCKY
SANFORD BISHOP, GEORGIA
JAMES E. CLYBURN, SOUTH CAROLINA
MICHAEL KREIDLER, WASHINGTON
CONNIE BROWN, FLORIDA

MACK FLEMING
STAFF DIRECTOR AND CHIEF COUNSEL

REPUBLICANS

BOB STUMP, ARIZONA
CHRISTOPHER H. SMITH, NEW JERSEY
DAN BURTON, INDIANA
MICHAEL BILIRAKIS, FLORIDA
THOMAS J. RIDGE, PENNSYLVANIA
FLOYD SPENCE, SOUTH CAROLINA
TIM HUTCHINSON, ARKANSAS
TERRY EVERETT, ALABAMA
STEVE BUYER, INDIANA
JACK DUINN, NEW YORK
SPENCER BACHUS, ALABAMA
JOHN LINDER, GEORGIA

ONE HUNDRED THIRD CONGRESS

G.V. (SONNY) MONTGOMERY
CHAIRMAN

U.S. House of Representatives

COMMITTEE ON VETERANS' AFFAIRS

335 CANNON HOUSE OFFICE BUILDING

Washington, DC 20515

January 22, 1993

OFFICE OF THE
SECRETARY OF DEFENSE
93 JAN 26 PM 12: 58

Honorable Les Aspin
Secretary of Defense
Room 3E880, The Pentagon
Washington, DC 20301-1000

Dear Mr. Secretary:

The report, "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," recently issued by the Institute of Medicine, National Academy of Sciences, provides important new information on secret U.S. chemical weapons programs during World War II. Of particular importance to this Committee and the Department of Veterans Affairs is the finding that an estimated 60,000 military personnel participated as human experimental subjects in tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite and unknown numbers of additional servicemembers may have been exposed to these agents through their participation in the production, transportation and/or storage of these chemical agents. In addition, this report contains information which is particularly significant with respect to submission of claims to VA for service-connected disability compensation for conditions believed to be caused by exposure to one or more of these chemical agents and adjudication of those claims.

The report indicates orders to maintain the secrecy of these programs given servicemembers more than forty years ago have been faithfully obeyed. As a result, many veterans reportedly have not filed claims with VA for compensation for service-connected disabilities believed to have resulted from exposure to one or more of these chemical agents during military service, because to file such a claim would require divulging information ordered to be kept secret. Fifty years after-the-fact, the interest of the government in maintaining secrecy about the chemical weapons programs conducted by the U.S. during World War II must be secondary to the government's responsibility to the veterans who participated in these once-secret programs. Official removal of unnecessary secrecy surrounding these programs is essential so all servicemembers who participated in these programs and believe they incurred a service-connected disability as a result of their

service may feel free to file a claim for compensation. Action should be taken immediately to countermand previous orders given servicemen requiring secrecy about these programs. This action should be accompanied by public announcements intended to inform former servicemembers that these secrecy orders have been countermanded, as recommended by the Institute of Medicine report.

Regarding adjudication of claims, the report provides conclusions regarding the causal relationships of exposure to the development of specific diseases. Also relevant to adjudication of claims submitted to VA for service-connected disability compensation, the report notes, "...many more military personnel were exposed to significant levels of mustard agents or Lewisite than is obvious from service records" and "there were often no records or documentation available of an individual's participation in the testing programs". Because individual military records may not record servicemember participation in these programs, the Department must provide VA the fullest possible accounting of these formerly secret tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite conducted by the U.S. during World War II and related production, transportation and storage of these chemical agents. This accounting should include, but not be limited to, the following:

The location of each U.S. chemical weapons research program which used human subjects, the purpose and nature of the research programs at each site, the identification of each military unit stationed at each chemical weapons research program location during the period of testing, the name, service number and military unit of each servicemember known to have participated as a human subject in a research program, the date on which research using human subjects, including preliminary research, was begun and was completed; and

The location of all facilities at which servicemembers participated in the production, transportation and/or storage of these chemical agents, the identification of each military unit stationed at each storage and/or production facility, the name, service number and military unit of each servicemember known to have participated in the production, transportation and/or storage of chemical agents, the date on which production and/or storage of chemical agents at each location was begun and terminated.

The recent Institute of Medicine report has provided valuable information on servicemember participation in secret U.S. chemical weapons programs during World War II which was not previously available to the public, this Committee or the Department of Veterans Affairs. Restrictions, however, on access to government-held information on these programs prevented access to all relevant information and consequently this report cannot be considered complete. According to the report, "...an

1/22/93


atmosphere of secrecy still exists to some extent regarding the WW II testing programs". As a result of this secrecy, "...the committee often had great difficulty obtaining information" and "The committee is certain that other relevant information exists that was never obtained." The unnecessary secrecy which still surrounds U.S. chemical weapons programs conducted during World War II must be removed if veterans who participated in these secret programs are to receive all benefits for which they are eligible. I strongly recommend the Department immediately take all necessary steps to remove the unnecessary restrictions on access to information regarding these programs and the servicemembers who participated in them.

In this regard, you may recall in early September, 1991, you and I, joined by Congressmen Stump and Dickinson, sent a letter to Secretary Cheney concerning "Department of Defense experimentation on military members with LSD, mustard gas, and other dangerous chemicals during the 1940s and 1950s" and requested a "report on the facts and circumstances surrounding these experiments...". The response we received from DOD did not disclose any of the information which has now been reported by the Institute of Medicine report. In addition to the circumstances associated with the Department's inadequate response to our earlier request being thoroughly examined, I am requesting the Department of Defense provide the Committee a report identifying all U.S. chemical weapons programs in which military personnel have participated as human experimental subjects in tests of exposure and all programs in which military personnel have participated in the production, transportation and/or storage of these chemical agents.

Finally, enclosed for your information is a copy of a letter dated January 5, 1993, from Acting Secretary Principi to Secretary Cheney regarding these issues. In his letter, Acting Secretary Principi has requested that the Department of Defense assist the Department of Veterans Affairs by identifying the servicemembers who participated in these exposure tests and other servicemembers who were otherwise exposed to these chemical agents and by providing relief from prior oaths of secrecy regarding these tests made by these veterans.

I look forward to receiving your reply and to being advised of the Department's plans to respond positively to my requests and the requests made by Acting Secretary Principi.

Sincerely,


G.V. (SONNY) MONTGOMERY
Chairman



February 1993

**VETERANS
DISABILITY**

**Information From
Military May Help VA
Assess Claims Related
to Secret Tests**



OSD CASE # 617

National Security and
International Affairs Division

B-251258

February 18, 1993

The Honorable John D. Rockefeller IV
Chairman, Committee on Veterans' Affairs
United States Senate

Dear Mr. Chairman:

This report responds to the former Chairman's request to investigate secret, U.S. military chemical and biological warfare research that exposed service members to hazardous substances. The report was to (1) identify, to the extent possible, all chemical and biological experiments conducted secretly by the military services over the past 50 years; (2) review the Department of Veterans Affairs' (VA) disability claims associated with these experiments; and (3) evaluate VA's efforts to contact veterans who participated in the experiments and invite them to file claims.

Results in Brief

There were at least three secret chemical experiments conducted between 1942 and 1975: the Navy's and the Army's World War II mustard agent experiments and the Army's incapacitating agent tests of the 1950s. All of these tests have been declassified by the services since 1980.

Because of a lack of data, making decisions on the validity of disability claims associated with mustard agent experiments has been difficult for VA. This has not been a problem with claims for injuries from incapacitating agent tests because the Army has the necessary information. Before July 1992, the VA required that veterans prove that their medical problems resulted from their participation in mustard agent tests. Few veterans, however, could prove this relationship. Until 1992, only 13 of 145 claims for benefits were approved. The VA recently recognized that the veterans' problems may be attributable to the fact that the experiments were conducted secretly, with no medical follow-up testing.

In July 1992 VA revised its adjudicating procedures for these claims. To receive compensation, veterans with specific health problems now need to show that they participated in mustard agent tests. However, there is only limited information available on test participants, and they continue to have difficulty deciding whether veterans' claims

for example, has not been able to validate veterans' claims of participation in mustard agent tests because the services do not have complete information on the test sites, the dates of the tests, and the units involved. Moreover, what information is available is widely dispersed in records held at numerous military locations. No effort has been made to aggregate the existing data.

VA has made other efforts to serve veterans who may not be receiving deserved compensation for their participation in the tests. For example, the agency had the National Academy of Science study the long-term effects of exposure to mustard gas to ensure VA's list of chronic conditions resulting from mustard agent exposure is complete.

VA's only outreach effort to identify veterans involved in these tests was hampered by the limited amount of information available on the testing programs. In this 1991 outreach effort, only 128 veterans out of the thousands that participated could be identified from existing information. Future outreach efforts could be enhanced if the Army and Navy provided VA with all available information on the location of the test sites, the dates of the mustard agent tests, and the units involved.

Background

Since at least World War I, the military has conducted medical, chemical, and biological research using military personnel who have volunteered. This research is done to maintain and protect the health of military personnel who may be exposed to a variety of diseases and combat conditions. Military procedures have long required that the volunteers be fully informed of the nature of the studies in which they participate and the foreseeable risks. However, prior to 1975, these procedures were not always followed.

In hearings conducted by the Senate Veterans' Affairs Committee in June 1991 and the Senate Committee on the Judiciary and the Senate Committee on Labor and Public Welfare in 1975,¹ participants in earlier testing programs testified that they were not informed about the nature of the experiments, the chemicals to be administered, or potential adverse effects. Additionally, the hearings disclosed that, in some tests, the volunteers' medical records were not adequately documented, nor were the volunteers medically followed after the tests. The June 1991 hearings also disclosed that some veterans were having trouble obtaining VA compensation for injuries alleged to have occurred in the testing.

¹Now the Senate Committee on Labor and Human Resources.

Additionally, the Committee expressed concerns about the need to identify participants, inform them of their involvement in tests, and assist them in developing their claims for disability compensation.

Three Secret Experiments Were Conducted, but Army and Navy Lack Complete Information on Participants

We identified three military research projects that were conducted secretly by the services between 1942 and 1975 that exposed service members to hazardous substances. The three projects are as follows: (1) In the World War II era, the U.S. Navy conducted tests of clothing and equipment, exposing sailors to mustard and lewisite agents; (2) in the same era, the U.S. Army tested clothing, equipment, and weapons that exposed soldiers to mustard agent; and (3) in the Cold War era, the U.S. Army's experiments exposed soldiers and some U.S. Air Force personnel to incapacitating agents, such as nerve agents, nerve agent antidotes, and psychochemicals, including lysergic acid diethylamide (LSD). Information, particularly names of participants, for both the Army and Navy's mustard agent tests is limited.

Navy and Army Mustard Agent Tests

At the beginning of World War II, allied forces feared the use of chemical agents, particularly mustard agent, by the Germans and Japanese. At the time, neither the United States nor its allies had developed effective defensive protection against mustard agent. Further, they did not know much about its offensive use under different meteorological conditions—particularly in such tactical areas as the North African desert or the beaches and jungle islands of the Pacific.

Accordingly, the Navy initiated the secret testing of protective clothing and antivesicant (blister) ointments at its Naval Research Laboratory in Washington, D.C., and at the Army's Edgewood Arsenal in Maryland. The Navy's program involved gas chamber tests, in which sailors experienced full-body exposure to mustard agent and lewisite while testing protective clothing, and skin tests, in which small amounts of mustard agent and antivesicant ointments were applied to sailors' forearms.

The Navy did not maintain records for all personnel involved in this testing. It only has listings of the surnames of approximately 2,900 sailors who participated in gas chamber tests conducted at the Naval Research Laboratory, and Navy officials acknowledge that these listings may not be complete. Additionally, Navy officials told us that at least 15,000 and perhaps as many as 60,000 Navy recruits had participated in skin tests

conducted under Navy contract at the University of Cincinnati. No records containing the names of these individuals.

The Army's World War II mustard agent test program included testing of protective clothing, equipment, and antivesicant ointments. The Army developed and tested offensive chemical warfare agents to determine the effectiveness and persistency of mustard agents in various environments. Test documents located at the Army's Chemical Development, and Engineering Center document that eye and skin tests were conducted at Edgewood Arsenal. Field tests were conducted at 11 locations—Bushnell Field, Florida; Dry Tortugas, Florida; San Jose Island, Cuba; Sibert, Alabama; Dugway Proving Grounds, Utah; Camp Bullis, Mississippi; El Centro, California; and Fort Richardson, Alaska.

The Army's records of its mustard agent test activities in a manner that readily identifies soldiers who participated in chemical tests. However, archival material on the Army's chemical warfare activities indicates that the number of soldiers who have been in the thousands.² For example, the records indicate that soldiers were commended for their participation in tests: "subjected themselves to pain, discomfort, and possible injury for the advancement of research in protection of the Army." The records did not indicate what type of tests these soldiers participated in. Additionally, the same records state that between 1941 and 1945, tests were continuously available at Edgewood and Dugway. Many soldiers participated in experiments from December 1944 to 1945. Again, the records did not indicate the type of tests these soldiers participated in.

The Army's Incapacitating Agent Tests in the Cold War Era

In 1952, the Army Chemical Corps began a class program for developing incapacitating agents. This program involved testing chemicals, including nerve agents, antidotes, psychochemicals, irritants, and vesicants. Tests were given to volunteer service members at Edgewood Arsenal, Maryland; Dugway Proving Grounds, Utah; and McClellan.

²Rexmond C. Cochrane, "Medical Research in Chemical Warfare," written in 1946 (Aberdeen Proving Ground Maryland Archives)

In total, Army documents identify 7,120 Army and Air Force personnel who participated in these tests. The Army's Medical Research and Development Command in Fort Detrick, Maryland, has the names and service numbers of all test participants and listings of the chemicals to which the service members were exposed.

VA Changed Its Criterion for Claims, but They May Still Be Difficult to Validate

Before VA revised its criterion for adjudicating mustard agent claims in July 1992, a veteran had to prove (among other things) that his disability was service connected or a result of injuries or disease incurred or aggravated during a period of military service. Usually medical records of treatment while in the service could be used to substantiate a veteran's claim. However, our review of 145 disability claims from veterans who allege exposure to mustard gas showed that claims were frequently disallowed by VA because veterans could provide no evidence of having been injured by a mustard gas exposure. Recognizing that the confidentiality of these tests could make obtaining such evidence difficult, VA recently provided a less stringent criterion for considering these cases. Specifically, veterans with specific health problems known to be associated with mustard gas exposure will now only have to prove participation in the testing program. However, proving participation may be difficult.

VA Issued Guidance in March 1991

VA issued its original guidance on evaluating claims for compensation from veterans who participated in early military research programs on March 20, 1991. This guidance provided extensive instructions for developing claims from sailors who participated in a Navy World War II program to test and evaluate protective clothing and applications (ointments, powders, etc.) for war gases, particularly mustard gas and lewisite. VA's guidance identified (1) an address for obtaining proof of participation, (2) eight disabilities VA recognized as being related to exposure to mustard gas,³ and (3) the type of information VA needed to develop a mustard gas exposure claim. VA's guidance also included instructions for developing claims from soldiers and airmen who participated in secret Army chemical tests. This guidance was less detailed than that for developing Navy test claims because, at the time, VA knew very little about the Army's testing activities.

³These disabilities are chronic forms of laryngitis, bronchitis, emphysema, asthma, conjunctivitis, keratitis, corneal opacities, and neurasthenia.

VA's March 1991 guidance also directed VA regional offices to begin tracking claims from veterans who alleged participation in secret tests. Prior to then, VA did not track such claims because it ordinarily tracks claims by type of disability, not by how the disability was incurred. Since that time, VA has required its regional offices to forward to VA Headquarters a copy of every rating decision that awards or denies benefits for disabilities alleged to be the result of participation in chemical testing programs. Because VA's adjudication regulations did not cover the special circumstances of veterans involved in secret testing, however, VA stopped processing mustard gas exposure claims in January 1992 and directed the regional offices to hold all claims, pending the development of a new regulation.

Claims Made Under the Old Criterion Were Often Disallowed

In evaluating mustard claims made before July 1992, adjudicators at the VA Regional Offices we visited relied primarily on an analysis contained in the March 1991 guidance. This analysis, prepared by VA's Office of Environmental Medicine and based on a literature search of the immediate and short-term effects of mustard gas exposure, reported that exposure to mustard gas results in an immediate acute injury. Additionally, the analysis stated that any chronic disability related to a mustard agent exposure should appear shortly after the exposure and continue to the present. In this respect, mustard gas disability claims differ little from other service-connected claims because veterans must be able to show that the disability was incurred or aggravated in service.

Accordingly, VA adjudicators looked for such things as evidence of treatment for a mustard gas-related injury during the veteran's active duty; evidence of a chronic disability shown on the veteran's military separation physical records, or a history of treatment for a disability known to be associated with exposure to mustard gas. While evidence of participation in secret tests did not appear to be discounted, the adjudicators primarily looked for evidence of a continuous pattern of treatment for the disability dating back to the veteran's service days. The adjudicators reasoned that, while the origin of a veteran's injury may have been a secret test, any veteran with a chronic disabling injury should be able to show treatment for that injury. Thus, for the 145 claim decisions we reviewed, even where veterans could show evidence of full-body exposure to mustard agent, entitlement to benefits was usually not granted by VA unless the veteran could show some in-service or post-service treatment.

Few veterans exposed to the services' mustard agent testing were able to meet the VA's criterion. Veterans' service medical records often contain no evidence of an acute mustard agent injury at the time of exposure or of a chronic health problem at the time of separation from the service. Additionally, few veterans were able to show any post-service treatment for their claimed conditions that would allow VA claim adjudicators to conclude these conditions were caused by exposure to mustard agent. In total, 97 of the 145 veterans in our review were denied benefits because they could not prove their health problems were caused by exposure to mustard agent.⁴ For most of these veterans, the first evidence of the injury appeared many years after their military service when they were at an age when these same ailments typically show up in the general population. Further, only a few of the veterans alleged that their health problems were long-term in nature, dating back to their active military duty.

VA Revised Its Criterion

On July 31, 1992, VA issued a new regulation in which it acknowledged that veterans exposed to mustard agent during secret tests faced a potentially insurmountable disadvantage when attempting to establish entitlement to compensation. VA believed that because of the secret nature of the testing, veterans might be disadvantaged in proving their entitlement to benefits. The Department reasoned that because medical records associated with the tests were generally unavailable and no long-term follow-up examinations were conducted, service medical records for individuals who had participated would probably not show evidence of the acute effects of their exposure. Additionally, VA stated that physicians who may have treated these veterans for chronic effects more than 40 years ago have almost certainly retired making it impossible to establish that a chronic disability had existed since the exposure to mustard.

The new regulation recognizes seven ailments known to be associated with exposure to mustard agent.⁵ Veterans with a chronic form of one or more of these conditions who can document a full-body exposure to mustard gas will not have to prove that the disease first manifested itself during the veteran's military service. VA is now evaluating all the claims that have been on hold in its regional offices. Additionally, VA is reviewing all previously denied claims.

⁴What follows are other reasons claims were disapproved: a veteran claimed a health problem not known to be caused by mustard agent exposure—14; a VA medical examination found that a veteran did not have the claimed condition—9; a veteran failed to respond to a VA request for information—7; other reasons—5.

⁵These disabilities are the same as those in the March 20, 1991, guidance except neurasthenia was dropped from the listing.

Revised VA Criterion Is Less Demanding, but Proving Participation Will Be Difficult

Under the July 1992 regulation, VA will presume certain chronic problems were caused by exposure. However, VA officials acknowledge that receiving benefits could ultimately hinge on the veteran's ability to verify participation in one of the tests.

Proving participation in secret testing will likely pose a significant problem for most veterans. Documentation listing test participants is sketchy or nonexistent. The Naval Research Laboratory has established a point of contact to assist the 2,900 veterans who participated in Navy-sponsored gas chamber tests. However, points of contact to assist other mustard agent test participants have not been established.

The likelihood of finding the names of all test participants appears remote. For example, we researched the records from one Army mustard agent project conducted on San Jose Island, Panama, between 1943 and 1945. In this project hundreds of soldiers are known to have experienced full-body exposures to mustard agent. Our research at Edgewood Arsenal uncovered dozens of documents relating to the testing, including test reports and biweekly progress reports. Only one document, however, contained any participants' names: six officers who had participated in one test. Navy officials reported similar problems in their research of the testing conducted at the University of Chicago. The testing may have exposed up to 60,000 sailors from the Great Lakes Naval Training Center.

VA officials said that without names of test participants they will need the services' assistance to obtain other forms of corroborating evidence, such as a link between a veteran's description of his test experience and military descriptions of testing programs. Our review indicated that no effort had been made to aggregate information available on the various tests, such as the dates and locations of tests, the types of exposures, the units involved, the names of individuals assigned to units during the involved time frames, and any indications of the people associated with the tests. Information of this type is contained in the records maintained by the military services at a number of locations. According to VA officials they will need points of contact within the services to help them validate veterans' claims of test participation.

VA Asked the National Academy of Science to Address Other Eligibility Issues

Our review indicated that veterans who participated in tests in which mustard gas was applied to their forearms were generally not awarded VA benefits. According to VA officials, participants in arm tests are not usually awarded benefits because a search of medical literature did not disclose

any long-term chronic effects stemming from arm exposure. Several veterans in our review claimed health problems not associated with mustard gas exposure as being associated with mustard gas exposure.

To ensure that all possibilities concerning long-term residue health effects had been considered, VA commissioned the National Academy of Sciences to review world medical and scientific literature to determine the health effects of exposure to mustard agent and, if warranted, recommend policy changes for VA's consideration. This study, issued in 1980, identified seven additional ailments associated with mustard gas exposure.⁶ Unlike the ailments previously recognized by VA, these ailments probably would not appear until many years after exposure. VA has added these ailments to its listing of recognized mustard gas illnesses.

Claims From Veterans Who Participated in Army Incapacitating Agent Tests Are Pending

Only recently has VA begun to track benefit claims specifically from the Army's incapacitating agent tests. No completed claims were found to deny benefits specifically associated with such tests had been forwarded to VA headquarters by the conclusion of our review. However, five claims are being processed. In reviewing these claims, VA has a system in place for assisting these veterans to obtain copies of their testing experiences. Additionally, both the Army and the National Academy of Science have conducted follow-up studies.

Our discussions with claims adjudicators at each of the Army's offices we visited indicated that the adjudicators were following established procedures for developing claims from participants in Army incapacitating agent experiments. VA has issued guidelines for processing these claims, and the Army's Medical Research and Materiel Command has a system in place for assisting these veterans in developing claims with VA. Our review of the Army's responses to our inquiries also showed that the Army was providing all available data to help develop their claims.

The fact that so few claims were found from participants in Army incapacitating agent testing may be attributable to the fact that the testing was not extensively followed. In 1980, the Army followed up on the health of servicemen who were given LSD. This follow-up resulted in 100 men receiving medical physicals and an additional 100 men receiving medical physicals and an additional 100 men receiving medical physicals.

⁶These ailments include four respiratory cancers, skin cancer, chronic bronchitis, and acute nonlymphocytic leukemia.

medical health questionnaires. Again in 1980, the Army had the National Academy of Sciences follow up on incapacitating agent test veterans to study possible delayed and long-term effects of exposure to chemicals. In total, the Academy contacted 4,996 test veterans, and 4,085 of these responded to a questionnaire about their health. However, it is not clear how many incapacitating test veterans may have filed claims before they began to keep track of claims specifically associated with the incapacitating agent tests.

Information Gaps Limit VA Outreach Efforts

To date, VA has conducted only one outreach effort to contact veterans who participated in secret chemical and biological experiments. VA's 1980 initiative was hampered because the names of only a few of the test subjects were known. VA has yet to direct any outreach efforts toward Army and Air Force veterans who participated in the Army's incapacitating agent experiments.

Despite concern within VA about the need for contacting test participants, the absence of names of test participants has precluded any significant outreach effort on VA's part. In 1990, VA tried to contact participants in the Navy's testing program by checking the listing of last names against a directory of veterans receiving VA benefits. This effort resulted in VA contacting only 128 out of 2,900 veterans whose surnames are known.

Recommendations

We recommend that the Secretary of Defense direct the Secretaries of the Army and the Navy to aggregate and provide information to VA on their past mustard gas testing activities. The information should include the following:

- location of the tests,
- dates of the tests,
- units involved,
- types of exposures experienced, and
- names of participants to the extent they are available.

Additionally, we recommend that the Secretary of Defense direct the Secretaries of the Army and Navy to provide a point of contact for VA within each service to assist veterans in obtaining information about their test experiences.

Agency Comments

The Department of Defense provided comments on a draft of this report. The Department of Defense agreed with the report's findings and recommendations (see app. I). The Department of Veterans Affairs provided oral comments on a draft of this report. VA also agreed with our findings.

Scope and Methodology

We initially obtained information on the secret testing programs conducted by the services between 1942 and 1975 from senior health affairs officials within the Department of Defense. On the basis of these data, we interviewed officials and reviewed historical records at the Naval Research Laboratory, Washington, D.C., and the Chemical Research and Development Engineering Center, Edgewood, Maryland. This review identified no previously undisclosed programs. To further check, however, we also contacted the Disabled American Veterans. In its monthly publication, this organization featured two articles regarding secret military testing and the use of human guinea pigs and asked its 1.5 million members to contact it or us if they had information about secret military experiments. We received approximately 200 letters and telephone calls from veterans, and the Disabled American Veterans received a similar number. These data were compared against data provided by the Department of Defense to determine whether other programs might have existed. However, they did not disclose additional programs.

To review veterans' experiences in seeking VA benefits for disabilities they claim resulted from injuries sustained in mustard agent experiments during World War II, we reviewed all claims at VA's Central Office and four VA regional offices—Baltimore, Maryland; Huntington, West Virginia; Winston-Salem, North Carolina; and St. Petersburg, Florida. These offices were selected because they had processed a significant portion of mustard agent claims. Additionally, we interviewed numerous veterans who contacted us through our solicitation in the Disabled American Veterans magazine and veterans who contacted the Disabled American Veterans. We also interviewed officials at the VA Central Office and claims adjudicators at the four VA regional offices. In total, we reviewed 108 individual mustard agent claims on file at the four VA regional offices and 145 rating decisions sent to VA Headquarters.

The claims from incapacitating agent test participants were obtained from veterans who contacted us about their test experiences and from inquiries made to the Army's Medical Research and Development Command.

Our work was conducted from November 1991 through September 1992
accordance with generally accepted government auditing standards.

Unless you publicly announce this report's contents earlier, we plan no
further distribution of this report until 30 days after its issue date. At the
time, we will send copies to the Secretaries of Defense, the Army, the
Navy, and Veterans Affairs. We will also make copies available to others
upon request.

This report was prepared under the direction of Henry L. Hinton, Jr.,
Director of Planning, who may be reached on (202) 275-6226 if you or your
staff have any questions. Other major contributors are listed in
appendix II.

Sincerely yours,

A handwritten signature in cursive script that reads "Frank C. Conahan".

Frank C. Conahan
Assistant Comptroller General

Comments From the Department of Defense



DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING

WASHINGTON, DC 20301-3010

15 JAN 1993

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "HUMAN EXPERIMENTATION: Information from DoD Can Help VA Assess Veterans' Disability Claims," dated November 11, 1992 (GAO Code J93487/OSD Case 9262).

The Department concurs with the GAO findings and recommendation. As discussed in the enclosure, the DoD will, to the extent feasible, make available to the Department of Veterans' Affairs information that may be useful in assessing disability claims of Veterans.

Suggested technical corrections have been provided separately to the GAO staff. The Department appreciates the opportunity to comment on the draft report.

Sincerely,


Victor R. Reis

Enclosure

GAO DRAFT REPORT--DATED NOVEMBER 13, 1992
(GAO CODE 393487) OSD CASE 9262

"HUMAN EXPERIMENTATION: INFORMATION FROM DOD CAN HELP
VA ASSESS VETERANS' DISABILITY CLAIMS"

DEPARTMENT OF DEFENSE COMMENTS ON THE RECOMMENDATION

* * * * *

- RECOMMENDATION: The GAO recommended that the Secretary of Defense direct the Secretaries of the Army and Navy to aggregate and provide information to the Department of Veterans' Affairs on the World War II mustard gas testing activities. The GAO indicated that the information should include the following:

- location of tests;
- dates of the tests;
- units involved;
- types of exposures experienced by volunteers, and ;
- names of participants to the extent they are available. (p. 14/GAO Draft Report)

DOD RESPONSE: Concur. The Department agrees to provide the recommended information to the extent it is available in current documents. In addition, the Department will provide Service points of contact to assist the Department of Veterans' Affairs in determining the validity of disability claims associated with the tests. The additional DoD information will be made available and Service points of contact will be identified by the third quarter of FY 1993.

Now on p. 10.

Enclosure

Major Contributors to This Report

National Security and
International Affairs
Division, Washington,
D.C.

David R. Warren, Associate Director
John R. Henderson, Assistant Director
Glenn D. Furbish, Evaluator-in-Charge
Frank Papineau, Senior Evaluator

Philadelphia Regional
Office

M. Glenn Knoepfle, Assignment Manager
Ronald Leporati, Senior Evaluator



TAB A5

FEB 23 1993

THE WHITE HOUSE
WASHINGTON

February 19, 1993

Dear Glen:

Thank you for your letters concerning trade and mustard gas.

First, let me address your concerns of the impact of the Uruguay Round on the textile industry. I have asked Ambassador Mickey Kantor, the U.S. Trade Representative, to conduct a thorough study of all aspects of the GATT negotiations. We will, of course, look at the textile issue, as well as the still incomplete negotiations on market access and agriculture, and the rule making provisions of the draft agreement that was prepared by GATT Director-General Arthur Dunkel.

As part of this review, we look forward to working closely with you and your colleagues in Congress and in the industry, as well as with other affected groups. I know that you hope, as I do, for a successful Uruguay Round that provides economic benefit to all Americans.

Secondly, I can assure you that the Department of Veterans Affairs (VA) is diligently attempting to identify veterans who may have been affected in mustard gas experiments during World War II. They are in the process of expanding the list of recognized long-term effects of mustard gas exposure and have relaxed requirements for evaluating mustard gas-related compensation claims. VA has established a toll free number (800-827-1000) that veterans or survivors of veterans who may have been exposed can use to contact the Department.

As you are aware, VA contracted with the National Academy of Science for the study that resulted in the report that you cited in your letter. Since that report was issued, VA has requested the Department of Defense (DoD) to cooperate and assist

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in its effort to locate and provide benefits to affected veterans by providing the names, service numbers, type of test and the type of agent used during these experiments. They have also asked DoD to release the affected personnel from their oath of secrecy so that they are free to come forward and file a claim. Further, the Secretary of Veterans Affairs, Jesse Brown, has expressed his personal commitment to insure that the service men and women included in these experiments are identified and receive the care that they deserve.

I am informed that the House Veterans Affairs Subcommittee on Compensation, Pension, and Insurance will hold a hearing on March 10, 1993 at which both the Departments of Defense and Veterans Affairs will testify about plans for resolving this unfortunate period in our military history.

→ Be assured this will not be treated as business as usual. I have directed both Secretaries to expedite the process of locating, treating and providing other benefits that these loyal citizens have earned.

With best wishes,

Sincerely,

Bill

The Honorable Glen Browder
House of Representatives
Washington, D.C. 20515



TAB A6

NOV. 28. 2004. 12:50AM

DMDC

THE DEPUTY SECRETARY OF DEFENSE



WASHINGTON, D.C. 20301

WAR 1993

**MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
COMPTROLLER
GENERAL COUNSEL
INSPECTOR GENERAL
DIRECTOR OF OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR OF ADMINISTRATION AND MANAGEMENT
DIRECTORS OF THE DEFENSE AGENCIES**

**SUBJECT: Chemical Weapons Research Programs Using Human
Test Subjects**

On January 6, 1993, the National Academy of Sciences Institute of Medicine published a report titled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite." Based on the findings of the report, Congressional inquiries, and requests from the Department of Veterans' Affairs, I am releasing any individuals who participated in testing, production, transportation or storage associated with any chemical weapons research conducted prior to 1968 from any non-disclosure restrictions or written or oral prohibitions (e.g., oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents. I am also declassifying documents for all chemical weapons research studies conducted prior to 1968, with respect to the issues of personnel health and safety as specified below:

a. The location of each U. S. chemical weapons research program (chamber, field and patch) which used human subjects, the type of chemical(s) tested (e.g., sulfur or nitrogen mustard), and the start and finish dates of each test including preliminary research;

b. Identification of each military unit stationed at each research site during the testing period, and the name, service or social security number, and military unit of each individual known to have participated in a chemical weapons research or testing program (chamber, field, and patch); and

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c. The location of all facilities at which individuals participated in the production, transportation or storage of these chemical agents to include: the dates on which storage or production was begun and terminated; identification of each military unit stationed at each storage or production site; and the name, service or social security number, and military unit of each service member known to have participated in production, transportation, or storage of these chemical agents.

Secretaries of the Military Departments are tasked with the following actions:

a. Initiate procedures to fully cooperate in locating and providing the above specified information. Please ensure that the information is provided in such a way as to maintain the integrity of our records and meet Privacy Act requirements.

b. Initiate procedures to declassify documents with respect to the issues listed above for chemical weapons research studies conducted after 1968, including studies performed in support of other Federal agencies; and, release participants from any non-disclosure restrictions (e.g. oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents during testing, production, or transportation of such chemicals. If there are any reasons that would prevent declassification of this material, those reasons should be provided to the Assistant Secretary of Defense (Force Management and Personnel) (ASD(FM&P)), in writing.

Information on the location, chemicals tested, and dates of each chemical weapons research program should be provided immediately. Personnel information should be provided to the ASD(FM&P) by July 31, 1993. Our goal is to provide information to the Department of Veterans' Affairs as soon as possible.

I fully recognize that some of this information may not be readily available. I expect a comprehensive search, however, to ensure that our current and former members receive the assistance and support to which they are entitled. I am directing the Assistant Secretary of Defense (Force Management and Personnel) to establish a task force to monitor the status of these actions. By March 31, Secretaries of the Military Departments should designate points of contact to Ms. Norma St. Claire, OASD(FM&P), (703) 696-8710.

William J. Perry



THE DEPUTY SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

9 MAR 1993

Honorable G. V. (Sonny) Montgomery
Chairman, Committee on Veterans' Affairs
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

Thank you for your letter regarding the report "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," issued by the National Academy of Sciences Institute of Medicine. I read your letter, and Mr. Principi's, with great concern. As a result, I have taken action to respond to these critical issues affecting the health and entitlements of past service members, and to initiate full cooperation with the Department of Veterans' Affairs.

I have enclosed a copy of a memorandum to the Secretaries of the Military Departments, my staff, and other Department of Defense agencies, addressing the issues outlined in your letter and directing them to cooperate to the fullest in making this information accessible to the Department of Veterans' Affairs. I have also directed the Assistant Secretary of Defense (Force Management & Personnel) (ASD(FM&P)) to head a task force to monitor the performance and completion of these actions. I have directed that information be provided to the ASD(FM&P) by July 31, 1993. We plan to forward information to the Department of Veterans' Affairs as soon as possible. In addition, I am taking action to have this information made public so that past service members that have been hesitant to seek assistance will no longer be constrained by non-disclosure restrictions, such as written or verbal oaths of secrecy, concerning their exposure to chemical weapons substances.

As you know, I take these issues very seriously. The Department of Defense is committed to honoring the service and sacrifice made by the men and women who are serving, and have served, in the nation's military. We will continue to make every effort to cooperate with the Department of Veterans' Affairs in responding to the needs and providing entitlements to those who have served. Members of my staff will continue to work with your staff to ensure that we are responsive to the concerns you have raised.

Sincerely,

Enclosure:
As Stated



TAB A7



DEPARTMENT OF THE ARMY
ADMINISTRATIVE ASSISTANT TO THE SECRETARY
WASHINGTON, D.C. 20310-0105

Col. Suter
G

21 May 1993

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS, LOGISTICS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE ARMY
(MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE ARMY
(RESEARCH DEVELOPMENT AND ACQUISITION)
DEPUTY CHIEF OF STAFF FOR PERSONNEL

SUBJECT: Chemical/Biological Weapons Research Programs
Using Human Test Subjects

The Deputy Secretary of Defense has requested that the Department of the Army conduct a comprehensive search for all records relating to chemical/biological weapons research programs using human test subjects (enclosure 1). This includes records on the exposure or potential exposure of humans to chemical/biological material during the research, development test, and evaluation (RDT&E) or production, transportation, storage, training and/or disposal of such material.

In accordance with this, please prepare a report for submission to my office containing the following information: a. the number of records located by media, and b. the estimated cost to prepare a database covering all pertinent records at each location. The information required by enclosure 1 is to be used in determining the data requirements for the database.

The number of records located by media should be listed in the following categories: 1. paper records, 2. index, punch, or aperture cards, 3. microforms or other machine-readable forms, including dosimetry badges, 4. electronic records, and 5. other.

The cost estimate for the database preparation should include the following information: 1. number of personnel required, 2. salary costs, 3. cost for preparation if contracted out, 4. estimated time to complete, and 5. workload impact on your organization.

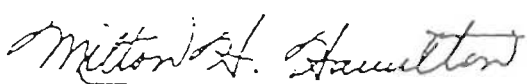
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A starting point for your search may be files on biological/chemical warfare which have been retired to Federal Records Centers and which are "frozen" by the Chemical/Biological Warfare Moratorium on Destruction of Records (enclosure 2). The Moratorium, put into effect by the National Archives and Records Administration (NARA) in the 1979/1980 time period, does not encompass all areas which fall under the Deputy Secretary's request above but does mandate the retention of many files within the biological/chemical arena. The NARA freeze code for this action is CBW.

The suspense date for this action is 10 June 1993. A negative response is required. Any questions should be addressed to my point of contact for this matter, Marc Vassanelli, who may be reached at 697-6900.



Milton E. Hamilton

Enclosures





OFFICE OF THE DIRECTOR OF
DEFENSE RESEARCH AND ENGINEERING

WASHINGTON, DC 20301-3030

17 MAR 1993

Honorable Jesse Brown
Secretary of Veterans Affairs
Department of Veterans Affairs
Washington, DC 20420

Dear Mr. Secretary:

We are continuing to review the January, 1993, report entitled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," prepared by the National Academy of Sciences. Please be assured that we will make every effort to assist your Department in obtaining chemical agent exposure data on military personnel involved in mustard gas and Lewisite testing as you requested.

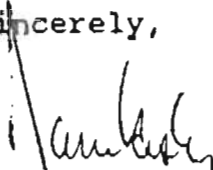
Specifically, we will assist in the following areas:

- (a) Compilation of the names of exposed personnel, specific test protocols, and available data for mustard gas testing during and subsequent to World War II. Personnel data from Edgewood Arsenal mustard gas testing conducted between 1955 and 1965 will also be included.
- (b) Compilation of the names and exposure data for military chemical agent workers exposed to mustard gas or Lewisite via production, handling, or training. In addition, the names of personnel exposed to chemical agents during the Bari, Italy, harbor disaster will also be compiled.
- (c) Identification of points of contact for each military service will be provided to assist your Department in expediting the collection of available information.

Additionally, the Deputy Secretary of Defense has signed a memorandum to release service individuals from any non-disclosure restrictions (e.g. oaths of secrecy) so that they may receive full medical evaluation and disability benefits as determined by the DVA.

We hope to provide the requested information this fiscal year and look forward to working with your Department on this significant health issue for our veterans.

Sincerely,



John M. Bachkosky
Deputy Director
Defense Research and Engineering



TAB A9

CHEMICAL WEAPONS EXPOSURE SITE REVIEWS

ACCOMPLISHED AS OF OCTOBER 1993

Washington National Records Center
Suitland, MD

April
August

Dugway Proving Ground
Dugway, UT

May

U. S. Army Chemical School
Fisher Library
Anniston, AL

June

National Personnel Records Center
St. Louis, MO

July

Edgewood Arsenal
Aberdeen, MD

June
August

University of Chicago Library
Chicago, IL

August



TAB A10

CHEMICAL WEAPONS EXPOSURE STUDY TASK FORCE

DoD Members

CAPT John Jemionek, OASD(HA)

COL Frank Cox, OATSD(Atomic Energy)

Mr. Dave Whitman, OASD(C3I)

Dr. Joseph Osterman, DDR&E

LTC Mike Brown, Army DCSOPS

CAPT Jim Cecil, USN, Naval Medical R&D Center

Col Mike Browne, SAF

Mr. Don Hakenson, Environmental Support Group

Ms. Marty Hamed, OASD(P&R)

Ms. Norma St. Claire, OASD(P&R), Chair



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1200

22 APR. 1993

HEALTH AFFAIRS

MEMORANDUM FOR DIRECTOR, INFORMATION RESOURCES MANAGEMENT,
OASD(FM&P)

SUBJECT: Chemical Weapons Exposure Testing Program of Work Study Group

On 19 April 1993, the above subject group met to recommend a Program of Work for executing an information retrieval to identify DoD personnel exposed to chemical agents during testing, training, transport, production or storage which occurred prior to 1 January 1968. At TAB (A) is an attendance sheet of individuals who participated in the study group.

The study group used as a model the Defense Nuclear Agency (DNA) Nuclear Test Personnel Review (NTPR) Program Fact Sheets and DNA Document 6041F, "For the Record - A History of the Nuclear Test Personnel Review Program, 1978-1986" (TAB B) to respond to your two taskings. These tasking being: (1) to define as a product a suitable data base usable by the Department of Veterans Affairs (DVA); and, (2) to develop a work plan to develop said product.

The study group recommends that seven tasks be assigned as goals or requirements to an Executive Agency for program execution:

- (1) To identify the location, content, and where possible declassification of all chemical warfare agents source documents issued prior to 1 January 1968.
- (2) To compile a electronic data base records file and roster of DoD personnel involved in the production, transport, storage, and testing of chemical warfare agents prior to 1 January 1968.
- (3) To develop a history of each chemical warfare agent or test site that involved DoD personnel.
- (4) To provide estimates, where available, of personnel exposure levels based upon scientific or technical reports issued in the course of a whole body chemical warfare agent(s) exposure study program.
- (5) To identify those individuals who were involved in whole body chemical agent exposure studies (chamber tests) and to provide, whenever possible, dose exposure levels on a priority basis to the Veterans Administration.
- (6) To establish personal contact with as many test participants as possible.

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- (7) To provide assistance to the veteran, the Veterans Administration and other organizations by providing as complete data as possible on individual participation and possible exposure to chemical warfare agents.

To accomplish the above goals, the following actions are recommended:

- (1) That a letter from DEPSECDEF or appropriate authority be issued which prohibits the destruction of any records related to Chem/bio Defense Research. Any records so identified shall be reported to the Executive Agent for this program tasking. Records are to remain on site until instructed otherwise.
- (2) That an Executive Agent for this program tasking be identified. The Executive Agent will be responsible for:
(a) identification of sites where available records exist and information content of such records; (b) declassification, to the extent possible, of all such records; (c) establish an electronic data base file of these records (d) extraction from each record pertinent detailed information that may assist in identification of individuals who participated in the chemical weapons program and were exposed to chemical agents. The Executive Agent shall also establish liaison with the DVA regarding such information transfer.
- (3) That an Agency be identified and tasked with the responsibility for development of a complete history regarding chemical weapons testing conducted at each identified site.

The following product reports are recommended to assist in the execution of this program:

- (1) **A SITE LEVEL DATA BASE FILE** This data base would establish the existence of records at a particular site, and would provide a preliminary description regarding information content in such records. The Site Level Data Base File would consist of the following fields regarding information contained in the records:

- Service (Civilian or Military Branch of Service)
- Unit Identification
- Location of Event (Field test, storage, test site)
- State where Event Occurred
- Agent
- Type of Involvement
- Start Date
- End Date
- Current Location of Records
- Type of Record (medical, muster role, morning report)
- Number of Individual Exposed to Agents
- Classification Status of Records Held.

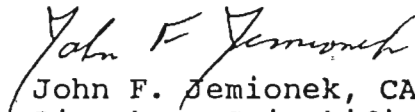
An example of such a Site Level Data Base File is contained at TAB C.

- (2) **NAME LEVEL DATA BASE FILE** This is a detailed listing of information found on each relevant document related to chemical weapons testing at identified sites. The file would also consist of an electron copy of each relevant document with a cross identification number for future access. Priority would be given to records which involved chamber tests, field testing, or accidental exposures during production, storage, transport, and testing. The Name Level Data Base File would consist of the following fields:

Service Branch of Individual (Military or Civilian)
Name of Individual
SSN
Service Number
Chemical Agent(s) Involved
Location of Exposure (Name of Base, City, Ship, etc)
State Postal Code
Zip Code
Start Date of Exposure
End Date of Exposure
Nature of Exposure (Accident, Patch, chamber, field, unknown, training, production, transportation, disposal)
Unit or Individual
Location of Hardcopy Record
Rank or Grade of Individual at time of Test
Date of Birth
Research Project Name or Project Number Identifier
Record Identification Number Assigned for Cross Reference
Record Source (medical, morning report, muster, summary, research notes, research logs)

- (3) **A HISTORICAL REPORT OF HUMAN EXPOSURE TO CHEMICAL AGENT TESTING** This historical document would provide an overview of the program. Detailing information as to units, dates, testing sites, agent(s) employed, and any other information which may be declassified regarding the background, purpose or outcome of such testing.

It should be noted that this will be a multi-year project. Completion date will be determined by resources which the Executive Agent commits to the Program.


John F. Jemionek, CAPT, MSC, USN
Director, Scientific Activities

MEETING/BRIEFING ATTENDANCE SHEET

Chemical Weapons Exposure Testing Planning

OASD FM&P (R&R) INFORMATION RESOURCE MANAGEMENT

NAME

ORGANIZATION

PHONE

Marty Narned	OSD	696-8710 (703)
Norma St. Claire	"	"
Randy RAKERS	USAMRIID -	(717) 245-3631 FAX-607-3482
PAT SCANLON	DCPC	(703) 607-3475
ED CHRISTIE	DMDC WEST	(408) 655-0400
QUENT KINDERMAN	C+P SVC, DVA	(202) 233 2010 697-2199 FAX
COL FRANK COX	OATSD (AE)	703) 695-1097 OFFICE
LT MILER BROWN	ARMY/ ODCSO, 25, (DAMO-FDB)	(703) 697-5422
Joe Ferris	DMDC - EAST	703-696-5823 FAX 695-5156
John JEMIOREK	OASD (HA)	(703) 695-7116 or 7117
Norma St. Claire	OASD (FM&P)	703-696-8710
HAN K. KANG	VA/EEES	(202) 606 606-5420

Frank + Pat had to leave early (1100)

Fact Sheet



Defense Nuclear Agency
Public Affairs Office
Washington, D.C. 20305

January 1989

Subject: Veterans' Services and the Nuclear Test Personnel Review Program

The Nuclear Test Personnel Review (NTPR) Program, established by the Department of Defense in 1978, has developed an extensive support system to assist the veterans of atmospheric nuclear tests in assessing the significance of their participation and radiation exposure. Through the NTPR Program, veterans may learn the details of their individual participation and their radiation doses, obtain documentation about the tests and their unit's role, and be informed of the availability of health care and other assistance by the Veterans Administration (VA).

The NTPR Program is conducted on a high-priority basis, with the Defense Nuclear Agency (DNA) directing its progress and effectiveness. Dedicated and knowledgeable uniformed and civilian personnel from the Army, Navy, Marine Corps, and Air Force initially researched the extensive archival records to provide the data about the thousands of units that participated in nuclear tests conducted from 1945 until the treaty banning atmospheric nuclear testing took effect in 1962. More recently, the resources committed to assist in this important effort have been consolidated at DNA to facilitate greater efficiency. To make all these items of information personally available to the veterans and other interested persons, DNA has established a reading room at 6919 Telegraph Road, Alexandria, Virginia, which is open to the public. Participants or their representatives are encouraged to visit this facility. If a visit is not possible, one may contact the Defense Nuclear Agency, ATTN: RARP-NTPR, 6801 Telegraph Road, Alexandria, Virginia 22310-3398, or call 1-800-462-3683. In Virginia, one may call (collect) 703-285-5610. Information is provided verbally or by mail, as requested.

These services will be much more effective if more veterans are aware of them and utilize them. Through extensive public outreach programs in the press and on television and radio, as well as with the many veterans groups, DNA has encouraged "atomic veterans" to come forth and examine the available information about their participation. Such contact enables each veteran to draw on DNA's wealth of information to apply to his individual case; it also allows the veteran to contribute any information about his participation that may be of help to others in his unit by augmenting the records that DNA has.

Public Law 97-72, the "Veterans' Health Care and Small Business Loan Act of 1981," authorized the VA to provide "hospital and nursing home care and limited outpatient services to veterans who were exposed while serving on active duty to ionizing radiation from the detonation of a nuclear device in connection with such veteran's participation in the test of such a device, or with the American occupation of Hiroshima and Nagasaki during the period beginning September 11,

1945 and ending July 1, 1946." This law provides for medical care related to radiogenic diseases, but does not authorize care for conditions that are found by the VA to have resulted from other than exposure to ionizing radiation. DNA assists the VA by verifying individual participation.

Public Laws 98-542 and 100-321 provide for VA determination of service connection and benefits for specified cancers. More specifically, PL 98-542, "Veteran's Dioxin and Radiation Exposure Compensation Standards Act," enacted October 24, 1984, defines rules for adjudicating VA claims and establishes a panel of experts for addressing scientific issues. PL 100-321, "Radiation Exposed Veterans Compensation Act of 1988," enacted May 20, 1988, provides a presumption of service connection for veterans (and survivors of such veterans) who participated in atmospheric or underwater nuclear tests as part of the United States nuclear weapons testing program or in the American occupation of Hiroshima and Nagasaki, Japan, and who suffer from certain diseases (i.e., thirteen types of cancer) that may be attributable to exposure to ionizing radiation. DNA assists the VA by providing participation and any associated radiation exposure information. Additional information about these benefits is available at local VA facilities. Veterans can receive free assistance in submitting claims by contacting one of the veterans' service organizations.

A history of atmospheric nuclear testing operations has been developed by DNA in an easily understandable series of more than 40 volumes containing over 9000 pages of detailed aspects of every test in each nuclear test operation. These historical reports are available at more than 700 libraries and facilities nationwide. In addition, over 25 volumes of radiation exposure assessments for major participant groups in the various test operations also have been widely disseminated. All reports are available in the NTPR reading room at DNA and may be purchased from the National Technical Information Service (NTIS), an agency of the Department of Commerce that provides unclassified DoD reports and other documents. The NTIS may be contacted at 5285 Port Royal Road, Springfield, Virginia 22161 (phone 703-487-4650). Any person who is interested in learning more about the histories, the radiation exposure assessments, or the thousands of now-declassified source documents that were used in the preparation of the historical and analytical reports is encouraged to visit the NTPR Reading Room or contact the NTPR Program.

A repository of over 125,000 documents related to nuclear weapons testing also has been established for public use at the Coordination and Information Center (CIC) in Nevada. The center, partially funded by DNA, is administered by the Department of Energy and operated by the Reynolds Electrical & Engineering Company at 3084 South Highland Avenue in Las Vegas, Nevada. The purpose of the CIC is to make available, at a facility accessible to the general public, unclassified and declassified historical documents that have been collected, consolidated, indexed, and stored for long term preservation and rapid retrieval. The facility also provides a staff to assist in the identification and retrieval of specific documents that relate to participation in atmospheric nuclear tests. Correspondence regarding the CIC should be directed to the U. S. Department of Energy, P. O. Box 14100, Las Vegas, Nevada 89114, or one may call the facility at 702-295-0731. Nominal charges to cover costs are made for duplicating documents and for information searches through the extensive data base. A fee schedule is available on request. The reading room at DNA has a computer terminal through which the index of this repository is accessible to interested veterans or their representatives.

Fact Sheet



Defense Nuclear Agency
Public Affairs Office
Washington, D.C. 20305

January 1989

Subject: Radiation Exposure and the Nuclear Test Personnel Review Program

During the atmospheric test series from 1945 to 1962, the Atomic Energy Commission (AEC) conducted some 235 nuclear tests, principally in Nevada and the Pacific Ocean. Approximately 200,000 Department of Defense (DoD) personnel, military and civilian, were involved in this testing. Many were exposed to low levels of ionizing radiation in the performance of various activities. The doses generally were within established limits and averaged about 0.6 rem. Approximately 1700 personnel exceeded the current Federal occupational radiation exposure guideline of 5.0 rem per year.

The Nuclear Test Personnel Review (NTPR) Program, established by DoD and administered by the Defense Nuclear Agency (DNA), is committed to provide each test participant the recorded radiation exposure or to assess the most probable exposure. This fact sheet describes the methods used to assess radiation exposure for individual test participants as well as the major findings of the Program to date.

The basic means to measure dose from ionizing radiation is the film badge. Of the some 200,000 DoD participants in atmospheric nuclear tests, about 95,000 have film badge data available. The official repository for these records is maintained by the Reynolds Electrical & Engineering Company (REECO), a contractor of the Department of Energy, formerly the Atomic Energy Commission. Individual dose information is available from DNA. Requests for such information may be from the individual, an authorized representative, the Veterans Administration (VA), or others as authorized by the Privacy Act.

Until 1955, DoD and AEC policy resulted in the issue of film badges to only a portion of the personnel in a homogeneous unit, such as a platoon, ship, or aircraft. If everyone in the unit was expected to receive similar exposures, only a few representatives of the unit might be badged. If some personnel would be performing functions not typical of the unit as a whole, then those personnel would be individually badged. After 1955, the policy was to badge all participants. However, some badges were unreadable and some records were lost or destroyed, as in the fire at the Federal Records Center in St. Louis. Thus, a significant portion of the NTPR effort has focused on assessing the exposure of those personnel who were not issued film badges and those whose records are missing or are incomplete.

In performing exposure assessments, DNA considers all of the relevant circumstances leading to potential radiation dose. All assessments begin with the determination of individual or unit activities and the relationship of such

activities to the radiological environment. If it is obvious from records of where people were that they were not exposed to a radiological environment, their dose is judged to be zero. If some members of a unit had film badges with valid readings while others did not, and if all members had a common relationship to the radiological environment, the doses for unbadged personnel can be inferred from the doses of badged personnel. Where there are insufficient badges, or where a common relationship to the radiological environment does not exist, dose calculations are performed.

Determination of No Dose Potential. DNA researches activities of an individual or his unit for the period of participation in an atmospheric nuclear test. Unit locations and movements are related to areas of radioactivity. If personnel were beyond the range of initial radiation (several miles) from nuclear detonations, did not experience fallout or enter a contaminated area, and did not come in contact with radioactive materials, they are judged to have received no radiation dose.

Dose Based on Film Badges of Others. DNA uses film badge data from badged personnel to derive individual doses for unbadged personnel. A group of participants is identified who had a common activity and thus a similar potential for exposure to radiation. Identification of these homogeneous groups is based upon research of historical records, technical reports, or correspondence. Using standard statistical methods, the film badge data are examined to determine proper representation of the entire group and thus their validity for use in statistical calculations. Often, the dose or time distribution of badge readings indicates that the group should be subdivided into more similar groups before proceeding further with the analysis. For each homogeneous group, the mean dose, variance, and confidence limits are determined, and the 95th percentile dose is then assigned to unbadged personnel. This ensures that personnel are assigned doses that are much higher than the average for the group. If individuals cannot be associated with a specific homogeneous group, statistical derivation of dose is not used.

Dose Calculation. DNA performs rigorous dose calculations when film badge data are unavailable for any part (or all) of the exposure period. DNA also performs calculations if film badge data are available but cannot be used statistically, if unique activities are ascribed to specific individuals, or if neutron or internal radiation exposures are indicated. These calculations involve correlating the activities of an individual or unit with a fully characterized radiological environment.

The calculation of dose is a standard scientific practice used by health physicists when the entire circumstances of radiation exposure require assessment. First, the conditions of exposure are reconstructed to include all known activities based on input from the individual as well as information from official reports and historical documents. The radiation environment is then characterized in time and space, and collated with the activities and locations of the unit or the individual. In addition to the gamma radiation that would have been measured by a film badge, the radiation environment includes neutron radiation for close-in personnel and beta and alpha radiation for personnel whose activities indicate the possibility of inhalation or ingestion of radioactive materials. Finally, the intensity of the radiation is determined for the entire period of exposure, from which the total integrated dose is calculated. An uncertainty analysis, which considers the values of all

parameters used, provides a measure of the confidence of the calculations. Existing dosimetry is then analyzed and compared with the calculated dose to further enhance the confidence of the calculations. Where the potential existed for inhalation or ingestion of radionuclides, internal dose commitments are derived and provided to the VA and/or to the individual. These are doses accrued over a 50-year period after exposure which, when added to the film badge or calculated whole body dose, represent the total dose to the organ specified.

The above dose determination procedures have been reviewed by some of the country's leading scientists and were initially described in the *Federal Register* on May 20, 1982, and later amplified in the *Federal Register* on October 21, 1985. Subsequently, the National Academy of Sciences (NAS) completed a "Review of the Methods Used to Assign Radiation Doses to Service Personnel at Nuclear Weapons Tests." The NAS Committee on Dose Assignment and Reconstruction for Service Personnel at Nuclear Weapons Tests found that:

"...the procedures used to estimate external radiation doses were reasonably sound. The NTPR has developed procedures that permit satisfactory estimates to be made of the external doses received by these participants. There are uncertainties in the dose estimates, but it appears that 99 percent of the personnel received doses of less than 5 rem, which is approximately the average dose received by the general population during the last 30 years from exposure to natural radiation and the use of ionizing radiation during medical procedures. [The committee] found no evidence that the NTPR teams had been remiss in carrying out their mandate. If any bias exists in the estimates, it is probably a tendency to overestimate the most likely dose, especially for internal emitters or when the statistical procedure for assigning dose is used."

DNA has developed the NTPR Program to provide every interested veteran with the available information relevant to his or her radiation exposure. Dose reconstruction, as noted above, is based on evaluation of available records. Any test participant who can provide copies of personal records is invited to send them to DNA if it appears that his or her dose reconstruction is based on incomplete records. Further inquiries can be addressed to Defense Nuclear Agency (ATTN: RARP/NTPR), 6801 Telegraph Road, Alexandria, Virginia 22310-3398, or one may call 1-800-462-3683. In Virginia, call (collect) 703-285-5610.

Fact Sheet



Defense Nuclear Agency
Public Affairs Office
Washington, D.C. 20305

January 1989

Subject: Nuclear Test Personnel Review (NTPR)

Since 1978, the Defense Nuclear Agency (DNA) has been conducting a major program to identify the approximately 200,000 Department of Defense (DoD) military and civilian personnel who participated in some 235 nuclear tests that were conducted during the atmospheric test series, primarily in Nevada and the Pacific Ocean. This NTPR program has involved intensive, high priority research of the broadest scope. Managed by a special office at DNA that is dedicated to identifying all such veterans and providing them with the best available estimates of radiation exposure for each, program personnel have compiled a roster of DoD personnel involved in the atmospheric nuclear tests. In addition, program personnel have developed a history of each atmospheric nuclear event that involved DoD participants, collected and analyzed all recorded dosimetry, and provided calculated doses in cases where recorded doses are unavailable or are incomplete. The program has also supported studies to ascertain whether adverse health effects are being experienced by test veterans that could be attributed to the tests.

An extensive public outreach program has been conducted to insure maximum interface with the thousands of test participants, to share with them the vast amount of data that has been collected on their behalf, and to advise them of the specifics of their individual involvement and radiation exposure history insofar as can be estimated from available records. Over 100 archives nationwide have been researched for relevant information; a well organized and easily accessed Coordination and Information Center has been established in Las Vegas, Nevada; over 40 historical volumes and more than 25 analytical reports have been developed to provide details of each test and operation; and a reading room has been established at DNA Headquarters to assist in making these data available to the public. All NTPR reports also have been placed in libraries throughout the country as well as at Veterans Administration (VA) offices to allow ready access to these important documents. To date, over 60,000 participants or their representatives have made personal contact with the program and have received a letter containing all the information that the NTPR has located on their participation. These contacts also have been followed up with personal letters, which provide the latest information and current important developments.

A major objective of the program is to assist veterans in obtaining information for their VA claims regarding their exposure to ionizing radiation at atmospheric nuclear tests. DNA has supported and continues to sponsor several important studies conducted by the National Academy of Sciences (NAS) to determine whether there is an unusually high incidence of mortality among nuclear test participants.

Under the mandates of Public Laws 98-542 and 100-321, DNA continues to identify nuclear test participants, their radiation risk activities, and the resultant radiation doses, thereby facilitating the health care and/or compensation of veterans as authorized by these laws. The VA advises that free medical examinations are available at VA facilities to any former military test participant, as well as medical care for conditions that the VA considers to be related to exposure to ionizing radiation. For the relatively few individuals who received doses in excess of today's Federal guidance (less than one percent of all participants), DNA has established personal contact with each for which an address could be found and encouraged them to undergo this examination. No adverse health effects attributable to radiation exposure have been detected among this unique higher-dose group of veterans.

Specific Accomplishments/Findings

DNA continues to expand upon its work to research the many important issues surrounding the nation's atmospheric nuclear test program. To date:

- o Over 200,000 test participants have been identified and researched as to their specific involvement and their recorded radiation exposure.
- o Extensive dose reconstruction methodologies, developed to provide a comprehensive analysis of both external dose and internal dose commitment, have been published in the *Federal Register* and reviewed by many of the country's leading experts. These methodologies have been applied to most participating units as well as to individual circumstances of exposure, to determine total doses to participating veterans.
- o Research indicates that doses to most DoD personnel were quite low, averaging about 0.625 rem. This is one-eighth the current Federal Guideline for allowable dose to radiation workers, which permits up to 5 rem per year. Even at the currently allowable dose, there is a very low risk of causing any type of radiogenic disease above that normally expected in the general population exposed to background levels of radiation.
- o Hundreds of thousands of pages of data have been recovered and researched, including over a thousand basic test reports, many of which had to be declassified, reprinted, and indexed for public use.
- o Original dosimetry source documents have been and are still being re-examined for accuracy and completeness. Individual involvement at the tests is continually researched to insure that all dose potential has been documented and considered.
- o At DNA's request, the National Academy of Sciences (NAS) conducted an extensive study of mortality of more than 46,000 nuclear test participants. The study, entitled "Mortality of Nuclear Weapons Test Participants," found "...no consistent evidence of increased deaths from cancer or any other diseases overall." An additional NAS study on mortality of the 42,000 participants at CROSSROADS is now being conducted and will provide, in about four years, scientific information on deaths due to radiogenic disease in this large population. To ensure the most accurate interpretation of recorded doses as it may relate to health effects, the NAS

also is studying the accuracy of film badge dosimetry. This evaluation of personnel film badges will be finished in about one year.

DNA is dedicated to provide all nuclear test veterans with a responsive, helpful program of historical research, dose determination, and individual support to ensure that each veteran fully understands his or her involvement in atmospheric nuclear tests. Individual dose reconstructions, as noted above, are based on evaluations of available records. Any test participant who can provide copies of personal records is invited to send them to DNA if it appears that his or her dose reconstruction is based on incomplete records. Further inquiries can be addressed to Defense Nuclear Agency (ATTN: RARP/NTPR), 6801 Telegraph Road, Alexandria, Virginia 22310-3398, or one may call 1-800-462-3683. In Virginia, call (collect) 703-285-5610.

DNA 6041F

**FOR THE RECORD—A HISTORY OF THE NUCLEAR TEST
PERSONNEL REVIEW PROGRAM, 1978-1986**

Science Applications International Corporation
8400 Westpark Drive
McLean, Virginia 22102-3522

1 August 1986

Technical Report

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Prepared for
Director
Defense Nuclear Agency
Washington, DC 20305-1000

SECTION 1

INTRODUCTION TO THE DEFENSE NUCLEAR AGENCY AND THE NTPR PROGRAM

The United States Government, primarily through the Manhattan Engineer District and its successor agency, the Atomic Energy Commission (AEC), conducted some 235 nuclear weapons tests from 1945 to 1962, during the atmospheric test series. The testing was principally in Nevada and the Pacific. An estimated 200,000 Department of Defense (DOD) personnel, military and civilian, took part in the tests, and many were exposed to low levels of ionizing radiation in the performance of various activities.

In March 1977, 15 years after the last above-ground nuclear test, the Veterans Administration (VA) office in Boise, Idaho, received a claim for disability benefits from retired Army Sergeant Paul R. Cooper. A patient at the VA hospital in Salt Lake City, Utah, Cooper attributed his acute myelocytic leukemia to the radiation exposure he had received as a participant in Shot SMOKY, conducted on 31 August 1957 as part of the 1957 series of nuclear tests, Operation PLUMBBOB. The VA initially denied Cooper's claim but later reversed its decision. The appeals board noted that sufficient signs of the disease had been present when Cooper was on active duty to support the claim as service connected. The board did not comment, however, on Cooper's assertion that his leukemia resulted directly from radiation exposure he had received at Shot SMOKY.

The VA decision on the Cooper claim initiated a series of events that ultimately involved the military services, the Defense Nuclear Agency (DNA), the Department of Energy (DOE), the National Academy of Sciences (NAS), the Department of Health and Human Services, and the White House. Questions fueling that involvement concerned, among other issues, the possible radiation doses received by test participants and the possible long-term health effects resulting from those doses.

This chapter describes the origins and the early history of the NTPR effort, when the program acquired its primary focus. Subsequent sections delineate the program's scope and accomplishments. The chapter concludes with a summary of radiation doses.

1.1 ORIGINS OF THE NTPR PROGRAM.

Through a series of meetings held in 1977, representatives of DOD, DOE, VA, and the Centers for Disease Control (CDC), among other agencies, concluded that research should be conducted concerning personnel participation in the U.S. atmospheric nuclear weapons test program. DOD and DNA representatives made commitments to establish an effort that would coordinate this research during hearings held by the Subcommittee on Health and Environment of the House Committee on Interstate and Foreign Commerce during 24-26 January and 14 February 1978. Their statements, along with decisions made during the 1977 meetings, laid a basis for the official establishment of the Nuclear Test Personnel Review (NTPR) in 1978.

An initial step was taken by the physician assigned in February 1977 to the Paul Cooper case at the Salt Lake City VA hospital. Concerned over the possibility of a connection between his patient's illness and his earlier participation in Shot SMOKY, the physician contacted Dr. Glyn G. Caldwell, Chief of the Cancer Branch of the Centers for Disease Control in Atlanta, Georgia. Dr. Caldwell, an epidemiologist who had an interest in leukemia studies, then contacted Dr. LaWayne R. Stromberg, Director of the Armed Forces Radiobiology Research Institute (AFRRI).^{*} Dr. Caldwell informed Dr. Stromberg that he wanted to investigate the question of possible relationship between participation in a nuclear test and later development of cancer. Dr. Stromberg agreed to support the effort by attempting to retrieve dosimetry readings for the names of DOD personnel forwarded to him by Dr. Caldwell.

Shortly thereafter, the VA decided against Paul Cooper's claim. Sergeant Cooper then took his case to the media, which accorded him considerable attention. "Almost immediately the subject became a part of the public consciousness," to quote from a document tracing NTPR origins that was drafted by Paul H. Carew, DNA Comptroller. According to Carew, CDC received correspondence within a few days from "several dozen people" who claimed to have participated in the nuclear weapons tests. The number of letters increased to approximately 2,000 within 4 months (1).

^{*}AFRRI is a subordinate DNA organization responsible for studying the biological effects of ionizing radiation.

During March and April 1977, against the backdrop of increasing media attention, representatives from CDC, AFFRI, and the Office of the Surgeon General, U.S. Army, discussed the research effort proposed by Dr. Caldwell and the need for a mechanism to address relevant issues and process inquiries. With the support of the DNA Director, the Surgeon General of the Army appointed an ad hoc committee to coordinate a detailed review of troop participation in the atmospheric nuclear test program. Headed by Dr. Stromberg, the committee included representatives from various Army organizations, such as the Office of the Surgeon General, Office of the Deputy Chief of Staff for Operations and Plans, and Office of the Chief of Public Affairs. The committee convened on 6 May 1977 to formulate its goals and agenda (1).

On 13 May 1977, an AFRRRI representative met with Dr. Caldwell at CDC in Atlanta to discuss the information CDC had and needed and to assess progress on the work undertaken. In reviewing his efforts, Dr. Caldwell noted that he had identified three confirmed cases of leukemia among the personnel who had written to CDC and indicated their participation in Shot SMOKY. This number was of interest to CDC because it was higher than expected for a comparable group. Dr. Caldwell had accordingly received CDC approval to conduct an epidemiological study of the entire SMOKY population. He required, however, a list of SMOKY participants complete with radiation exposure histories from DOD. Upon conclusion of the meeting, the AFRRRI representative recommended that DOD provide the requested roster and data (1).

It soon became clear that the requisite data were incomplete and scattered in repositories across the country. To discuss data needs, as well as other concerns, a meeting of the ad hoc committee was scheduled for June 1977 at the DOE Nevada Operations Office (NVOO) in Las Vegas. NVOO was the center for testing activities at the Nevada Test Site (NTS) and a central archives for DOE information on the atmospheric test program (1).

Convened on 3 June 1977, the meeting involved 24 participants representing the Department of the Army, Department of Navy, DNA, DOE, Los Alamos National Laboratory (LANL), and Reynolds Electrical & Engineering Company (REECO), a DOE contractor at the NTS. The discussion focused on the availability of information, particularly from the REECO records indicating

personnel exposures to ionizing radiation during the atmospheric nuclear tests. These records, discussed in section 3.1.1, provided useful information on a personnel who had worn film badges. There were no entries, though, for the participants who did not wear film badges. The committee concluded that information would be needed to supplement the data made available by the REECO files and that cooperation would be required between the participants in the testing and CDC. The Army representatives supported this conclusion but announced they would proceed with a unilateral investigation of Army personnel at Shot SMOKY. They accordingly requested access to information on Army personnel exposures and related data as they were identified (1).

During the next 2 weeks, Major Alan L. Skerker, Office of the Deputy Chief of Staff for Operations and Plans, developed a roster for one of the Army contingents that had been at Shot SMOKY: the Provisional Company, 82nd Airborne Division. He recovered names from such sources as yearbooks housed at Fort Bragg, North Carolina. Individual dosimetry information came from records kept at the Lexington Bluegrass Signal Depot, Lexington, Kentucky. These data were sent on 15 June 1977 to Dr. Caldwell after the dose information had been removed according to constraints seemingly imposed by Public Law 93-579 of 1974, commonly known as the Privacy Act. It was later learned that the dose information could be provided to CDC (1).

By mid-August 1977, the ad hoc committee, which had been restructured to include the Surgeon General of the Air Force, the Surgeon General of the Navy, and the Department of Energy, had summarized its findings. It agreed to the following (1):

- That the concerned Federal agencies support Dr. Glyn Caldwell in his attempt to identify, locate, and obtain the necessary medical data on SMOKY participants
- That the ad hoc committee be established formally as an interagency committee with DOD, DOE, VA, and the U.S. Public Health Service as members
- That the review of DOD personnel exposure records associated with the nuclear weapons testing be continued.

On 3 November 1977, the interagency committee held a preliminary meeting to discuss the possible long-term health effects resulting from participation in atmospheric nuclear weapons testing. The attendees recommended that a major epidemiological study of test participants be undertaken under the direction of an independent scientific organization, such as the National Research Council (NRC) of the NAS, and that this effort be funded by DOD and DOE. They suggested, moreover, that a central administrative unit be established within DOD to coordinate all related activities. The final recommendation was for a meeting of senior officials of the concerned agencies, to be held as soon as possible, to organize the effort (1).

On 1 December 1977, the Assistant Secretary of Defense for Health Affairs convened a meeting to address the atmospheric nuclear weapons testing program and the possible relationship between participation in the program and an increased incidence of disease attributable to radiation exposure. Participants included representatives from the military services, DNA, DOE, VA, CDC, and the NRC, as well as epidemiological consultants from Walter Reed Army Medical Center. The meeting resulted in a decision to solicit a formal proposal for a study from NRC of the atmospheric nuclear test participants. It also resulted in the unofficial agreement that DNA would function as DOD executive agency for all matters pertaining to DOD personnel participation in the atmospheric nuclear test program (1; 2).

The Subcommittee on Health and Environment of the House Committee on Interstate and Foreign Commerce held hearings during 24-26 January and 14 February 1978 on DOD actions to collect data on DOD personnel who participated in atmospheric nuclear weapons testing. These hearings functioned as a catalyst for official establishment of the NTPR in late January 1978. In their testimony, DOD and DNA representatives not only highlighted the research initiated by concerned Federal agencies in 1977, but they made commitments to establish an effort that would develop histories of the atmospheric nuclear weapons tests, define radiation safety policies and procedures in effect during the tests, identify participation and radiation doses for DOD military and civilian personnel who took part in the tests, and make the resulting information available for review by scientific organizations. These commitments emerged as the primary NTPR tasks (3).

1.2 FOCUSING THE NTPR PROGRAM.

The early history of the NTPR program, like the beginnings of many other organizations, can be traced through memoranda drafted during the initial months of the effort. Most of the documents discussed in this section were written by or to Vice Admiral Robert R. Monroe, U.S. Navy, Director of the Defense Nuclear Agency from March 1977 to August 1980 and principal architect of the NTPR.

DNA responsibility for the NTPR officially started with two memoranda dated 28 January 1978 and signed by John P. White, Assistant Secretary of Defense, Manpower, Reserve Affairs, and Logistics. One of the documents, addressed to the Director of DNA, made the agency responsible for the following tasks and "for any others that may develop" (4):

- Develop a history of every atmospheric nuclear event that involved DOD personnel.
- Identify the radiation monitoring control policies, procedures, and requirements that were in effect.
- Assemble a census of personnel at each event. Identify their location, movements, protection, and radiation dose exposure.
- Make this information available for scientific review and appraisal.
- Handle public affairs matters in cooperation with the Office of the Assistant Secretary of Defense (Public Affairs).
- Handle Congressional Affairs matters in coordination with the Office of the Assistant to the Secretary of Defense for Legislative Affairs.

These tasks evolved over time, as indicated in section 1.3, but they were the basis of the NTPR effort.

The other 28 January 1978 memorandum was important because it gave the DNA Director "authority to task the Military Departments and other DOD elements and components" in responding to the assignments. This document was sent to the Secretaries of the Military Departments, the Chairman of the Joint Chiefs of Staff, and the Under Secretaries of Defense, among others (5).

Using his given authority, Vice Admiral Monroe delineated the respective responsibilities of DNA and the military services in a 13 February 1978 memorandum directed to the Secretary of the Army, the Secretary of the Navy, and the Secretary of the Air Force. DNA, he emphasized, would "organize and direct the overall effort," while each military service would be responsible for NTPR research pertinent to that service and for followup communications with service personnel (6).

DNA coordinated its approach with DOE and CDC in meetings held during March and April 1978. Representatives from DNA explained the NTPR program to DOE/NVOO and its contractors at a 9 March 1978 meeting. DOE hosted a meeting on 4 April 1978 that was attended by representatives of the DOD NTPR, National Archives, REECo, LANL, NAS/NRC, and each DNA contractor organization. The discussion focused on methods for identifying and obtaining records on atmospheric nuclear weapons testing (7).

An 8 June 1978 memorandum, drafted by Vice Admiral Monroe, directed the NTPR teams toward consistency in research. It asked them to collect the following information on test participants: "1) Full name (no initials), 2) Branch of service (if civilian, service/contractor/laboratory affiliation), 3) Unit or ship (at time of test), 4) Grade, rank, or rating (at time of test), 5) Service serial number(s), 6) Social security number, 7) Date of birth, 8) Shots participated in, 9) Radiation exposure data, in as much detail as possible (e.g.: total atmospheric test exposure; exposure by radiation type; exposure by shot, series, or time period; badge issue and turn-in dates; bioassay data; etc.), 10) Sources of above data elements." The memorandum also required the teams to research individual medical records, which would be a major effort involving considerable time. The rationale for this records search was as follows (8):

First, the NTPR effort could scarcely be considered thorough, searching, or even competent if this basic source is not explored. Second, radiation exposure data is so central to the purpose of NTPR, and recorded information elsewhere is known to have such limitations, that no potential source can be overlooked. Third, since future research efforts (epidemiological, claims, etc.) will, in many cases, retrace this same ground, knowledge even of absence of information in medical records will be of considerable value. Finally, an understanding of the Services' past success or failure in recording exposures will be important in devising new systems.

With a memorandum dated 3 October 1979, DNA expanded the NTPR effort to include U.S. service personnel who had participated in the postwar occupation of Hiroshima and Nagasaki. Vice Admiral Monroe noted that the original NTPR charter had not included these personnel because the effort had been "limited to test participants" and the "wartime bombings were not tests." Nevertheless, he added, they had "the same need for DOD research and assistance" as did the former test participants. "Unless otherwise directed," he concluded, the NTPR program "is being expanded to include those U.S. servicemen who might have been exposed to low-level ionizing radiation as a result of the Hiroshima and Nagasaki bombings" (9). Vice Admiral Monroe was "so confident this step was right," he later explained, that he did not preface his statement to his superiors with "I recommend" (10).

The central management decisions emergent from the memoranda cited above and the other documents drafted in the early months of the NTPR effort were:

- To undertake the NTPR program as a major, multiyear, multimillion-dollar effort
- To organize the NTPR program with DNA exercising centralized guidance and the military services having responsibility for the execution of service research and followup with their own service personnel
- To pursue the NTPR program as a scientific and historical inquiry, producing factual results without regard to preconceptions or political acceptability
- To remain alert to any possible new requirement or any additional action that might seem needed and to modify the NTPR program accordingly.

The last-mentioned decision resulted in a program that has evolved to meet the needs of the time (10).

1.3 SCOPE OF THE NTPR PROGRAM.

During the first 8 years of the program, the specific tasks of the NTPR have become more detailed and numerous. The 28 January 1978 memorandum cited

in the preceding section identified six tasks. Nine tasks eventually emerged, as listed below (11):

1. To compile a roster of the DOD personnel involved in the atmospheric nuclear tests
2. To develop a history of each atmospheric nuclear event that involved DOD personnel
3. To declassify all possible nuclear test related source documents that bore a security classification
4. To provide estimates of atmospheric test radiation doses--both as a check on film badge readings and as a substitute for them in those cases where badges were not worn or readings were not recorded or are not retrievable--and to submit the methodology for the estimates to the NAS for peer review
5. To establish personal contact with as many test participants as possible
6. To identify those individuals who received a higher radiation dose than those doses recommended under current Federal guidelines for radiation workers, to notify those individuals of their dose, and to offer veterans free medical examinations at Government hospitals
7. To sponsor, in conjunction with the Department of Energy, an independent mortality study by the National Academy of Sciences of test participants selected by the NAS
8. To carry out a detailed research program, in conjunction with the ongoing NTPR program, to recover all data pertaining to possible radiation exposure of U.S. postwar occupation troops at Hiroshima and Nagasaki, Japan
9. To provide assistance to the veteran, the Veterans Administration, and other organizations by doing research and by providing as complete data as possible on individual participation and radiation doses.

An NTPR team in each military service and a separate team at the DNA Field Command in Albuquerque, New Mexico, have worked with DNA in meeting these tasks, as is explained in chapter 2. In addition, DNA has employed several contractors to provide specialized supporting services. Figure 1 shows the basic organization of NTPR within DNA. The five NTPR teams and the contractors report to the NTPR Program Manager, who is responsible to the Director of DNA. Succeeding Vice Admiral Robert Monroe as DNA Director were Lieutenant General Harry A. Griffith, U.S. Army, August 1980 to August 1983;

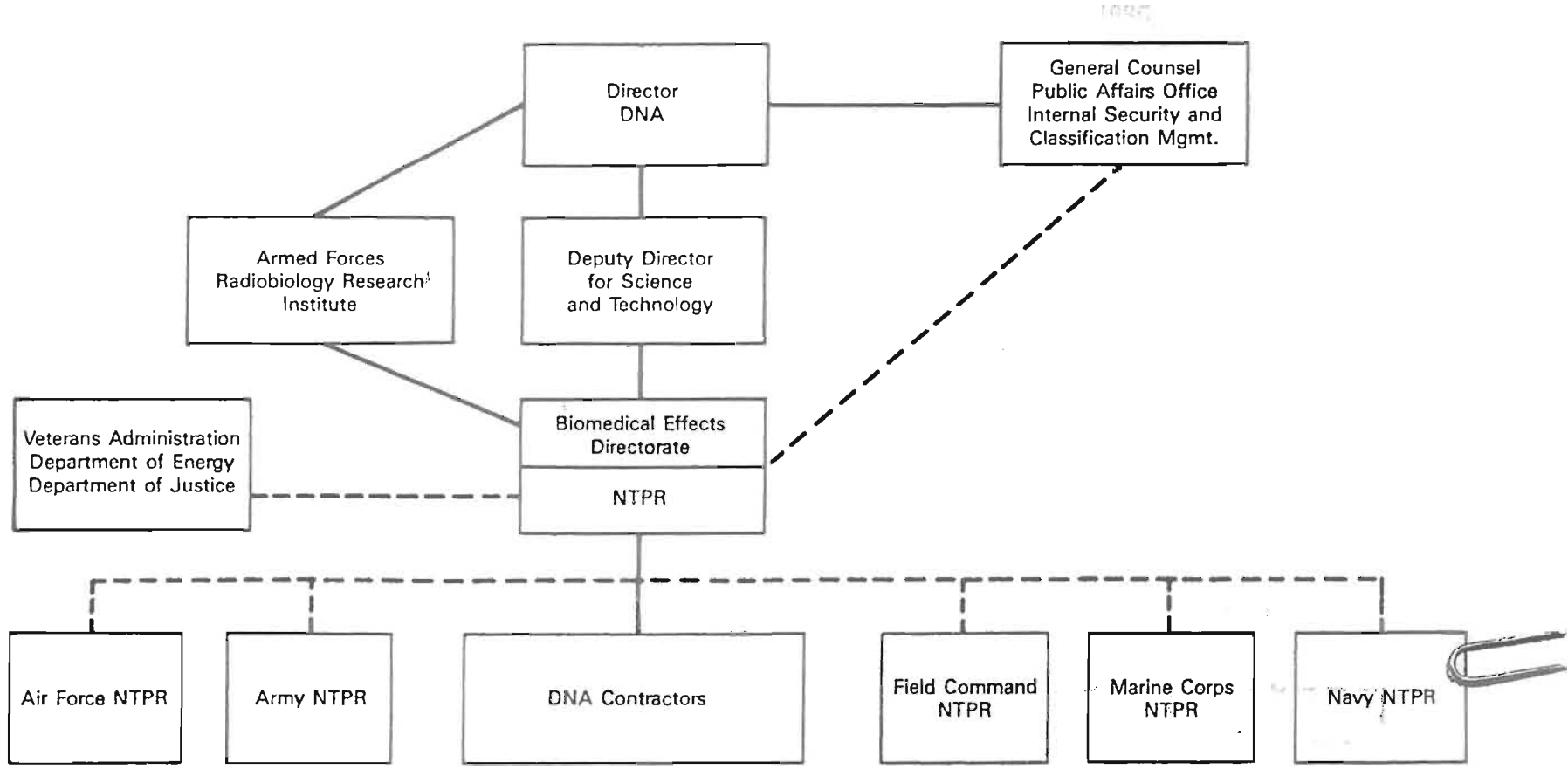


Figure 1. Organization of NTPR within DNA from 1982 to 1986.

Lieutenant General Richard K. Saxer, U.S. Air Force, August 1983 to June 1985; and Lieutenant General John L. Pickitt, U.S. Air Force, June 1985 to present.

1.4 NTPR PROGRAM ACCOMPLISHMENTS. ~~IDENTIFIABILITY~~

The NTPR program has been pursued on a high-priority basis, with adequate personnel support and funding. Table 1 shows NTPR Government and contractor person years from 1978 to 1986. Table 2 itemizes DNA and DOD annual NTPR funding for the same period (12; 13). This section presents the results achieved from these expenditures. ~~FEED~~

By 1 May 1986, the NTPR teams had identified by name approximately 90 percent of the estimated 200,000 DOD test participants and had recovered the dose information presented in table 4 (13). The effort is nearing completion on the first task, which is development of a roster of DOD participants in the nuclear tests. The roster will list participants and their radiation doses for each series.

The personnel-oriented history of the atmospheric test program, the second task, has been completed. This 9,029-page history comprises 41 volumes. The reports, organized by series and shot, identify the participating organizations and their involvements, the radiological safety precautions taken, and the recorded radiation dose levels present during the testing. The reports have been distributed to over 700 locations, including many public and college libraries and all VA regional centers throughout the U.S. and overseas. The distribution list is given at the back of each volume and is available upon request from DNA.

Third, by 1 May 1986, DNA had declassified over 1,100 publications containing information pertinent to the personnel aspects of the atmospheric nuclear tests (13). These documents are catalogued for easy reference and placed for ready availability at the National Technical Information Service in Springfield, Virginia, as explained in Appendix D.1. DNA has also declassified hundreds of relatively brief documents, such as memoranda and letters, and placed all of them at the Coordination and Information Center (CIC) in Las Vegas, Nevada. Appendix D.2 identifies CIC holdings and procedures.

Table 1. NTPR Government and contractor person years from 1978 through 1986.

	78	79	80	81	82	83	84	85	86	Total
DNA*	6	10	7	6	6	4	4	3	3	49
DOD**	63	160	197	201	186	140	60	54	60	1,121

* In-house

** In-house and Contractors

Table 2. NTPR funding in millions of dollars from 1978 through 1986.

	78	79	80	81	82	83	84	85	86	Total
DNA Contract Costs	1.91	4.75	6.91	6.66	6.31	3.03	1.60	1.94	1.75	34.86
DOD Contract Costs	3.50	6.45	9.22	8.46	7.90	4.58	3.13	2.97	2.65	48.86

The NTPR dose reconstruction program emerged from the fourth task, to provide estimates of radiation doses. This program, described in chapter 7, has been used where film badge readings were not available to determine doses for personnel in participating units and to reconstruct individual doses in specific cases, as in support of veterans claims. Part of this effort is a separate analysis of possible internal dose due to inhalation and ingestion of radioactive materials. This process was submitted for peer review to NAS. On 7 February 1986, NAS released its report, which judged the methodology to have sound scientific merit.

DNA and the NTPR teams have taken several actions to establish personal contact with as many test participants as possible, which is the fifth task identified in the preceding section. On 9 February 1978, DNA initiated its nationwide toll-free call-in program for participants to report their involvement in the atmospheric nuclear tests. The agency then issued multiple news releases that identified the purpose of the NTPR program, the toll-free number, and the DNA address. It worked in part through the U.S. Army Hometown Newscenter in Kansas City, Missouri, which had the capability to mail information to 8,066 daily and weekly newspapers, as well as 720 television and 6,394 radio stations. DNA sent letters to news directors and editors asking them to issue an enclosed press release as a service to the part of their audiences that might have participated at a nuclear test (14: 11).

The response to the initial nationwide news release was overwhelming. During the first 2 weeks after the toll-free lines were established, almost 13,000 persons called to report or inquire about their test participation. DNA progressively increased the toll-free lines from 2 to 20 (15). The calls have continued to the present, although in diminishing numbers. By 1984, DNA was averaging 150-200 calls a week and by 1985, about 65 a week (16; 17). A total of approximately 50,000 test participants have called or written to the agency* (13). The information extracted from the telephone calls and letters comprises what has come to be known as the File A data base.

*The number for the toll-free telephone line is (800) 336-3068. In Virginia, Hawaii, and Alaska, call collect to (703) 286-5610.

DNA has also conducted three major mailings to all veterans of the nuclear tests and the Hiroshima/Nagasaki occupation for whom it had addresses (13):

- In June 1983, DNA and the Navy mailed copies of an NTPR Fact Sheet and VA Circular 10-83-61 to about 40,000 veterans. VA Circular 10-83-61 authorized treatment of test participant veterans for any ailments except those that clearly are not radiogenic in origin.
- In July 1983, DOD mailed copies of the 1983 NAS study "Multiple Myeloma among Hiroshima/Nagasaki Veterans," discussed in chapter 8, to the approximately 1,000 Hiroshima/Nagasaki veterans who had called DNA.
- In June 1985, DNA mailed to about 45,000 veterans a packet of information containing the following:
 - Results of the CDC study "Mortality and Cancer Frequency among Military Nuclear Test (SMOKY) Participants, 1957 through 1970," published in the Journal of the American Medical Association during 1983 (see chapter 8).
 - Results of the 1985 NAS mortality study, entitled Studies of Participants in Nuclear Tests (see chapter 8).
 - Results of the NTPR program
 - Information on free medical benefits available through VA
 - Request for comments on the proposed rules for responding to VA/NTPR inquiries (see chapter 3).

As the official DOD agent for the NTPR program, DNA has responded to requests for information from Congress, medical and scientific communities, veterans groups, lawyers, and citizens with special interests in NTPR. It has sent approximately 1,000 letters to the offices of U.S. Senators and Representatives, Governors, and the White House, all of which had requested information on the program (13). In addition, DNA representatives have testified at Congressional hearings from the very start of NTPR. The Director of DNA, along with other agency and DOD personnel, made statements at the hearings identified in table 3 (18).

DNA has also responded to requests for information from the media. It has provided data on NTPR to both national and local television programs and publications, including "60 Minutes," "20/20," "Good Morning, Washington," National Geographic, People magazine, and the Washington Post.

Table 3. Congressional hearings at which DNA representatives have given testimony.

<u>Committee</u>	<u>Date of Testimony</u>
<ul style="list-style-type: none"> ● Subcommittee on Health and Environment of the House Committee on Interstate and Foreign Commerce 	24-26 January and 14 February 1978
--Emphasis on actions then underway in the Department of Defense to collect data on DOD personnel who participated in atmospheric nuclear weapons testing	
<ul style="list-style-type: none"> ● Subcommittee on the House Committee on Government Operations 	13 July 1978
--Emphasis on DOD research to identify participants in atmospheric nuclear weapons testing and possible exposures to ionizing radiation resulting from their participation	
<ul style="list-style-type: none"> ● Subcommittee on Energy, Nuclear Proliferation and Federal Services of the Senate Committee on Governmental Affairs 	8 May 1979
--Emphasis on progress made by DNA and the service teams to identify participants in atmospheric nuclear weapons testing and possible exposures to ionizing radiation resulting from their participation	
<ul style="list-style-type: none"> ● Senate Committee on Veterans Affairs 	20 June 1979
--Emphasis on declassification of documents relevant to atmospheric nuclear weapons testing and on dose reconstruction for test participants who did not wear badges	
<ul style="list-style-type: none"> ● Senate Committee on Labor and Human Resources 	27 October 1981
--Emphasis on proposed Bill S. 1483, which would make the U.S. liable in incidents related to fallout from the atmospheric nuclear tests	
<ul style="list-style-type: none"> ● Senate Committee on Veterans Affairs 	18 April 1983
--Emphasis on status of the NTPR program and the VA adjudication process	

Table 3. Congressional hearings at which DNA representatives have given testimony (Continued).

<u>Committee</u>	<u>Date of Testimony</u>
● Subcommittee on Oversight and Investigations of the House Committee on Veterans' Affairs	24 May 1983
--Emphasis on the NTPR program, Operation CROSSROADS, and Stafford Warren Collection	
● Senate Committee on Veterans Affairs	11 December 1985
--Emphasis on issues resulting from a GAO report on radiation exposures received by participants in Operation CROSSROADS, conducted in 1946 at Bikini as the first postwar nuclear test series	

The sixth of the listed NTPR tasks was to identify and notify individuals whose radiation doses exceeded current Federal guidelines and to offer veterans free medical examinations at VA hospitals. Notification and medical examination programs exist for three categories of DOD test participants: Over-25-rem* Participants, Desert Rock Volunteer Observers, and Over-5-rem Participants. In addition, free VA medical examinations are available upon request to all atomic veterans. See chapter 3 for a discussion of the VA examination process.

In March 1979, the notification and veterans medical examination program was initiated for all test participants with cumulative doses from atmospheric testing in excess of 25 rem. The threshold of 25 rem was selected because it is the current recommended national guideline for a one-time, planned exposure under emergency conditions.

As of 1 May 1986, the NTPR had identified 39 DOD personnel in the Over-25-rem group, with external doses ranging from just over 25 rem to an estimated high of 98 rem. Most of these exposures resulted from a wind shift at BRAVO, detonated on 1 March 1954 at Bikini as part of Operation CASTLE (see section 4.10). Of the 37 participants who had identifiable addresses and could be contacted, 19 did and 5 did not want examinations. Twelve veterans took the examinations (13).

In May 1979, the DOD notification and VA examination program was expanded to include officer volunteer observers who took part in the Desert Rock troop exercises during the testing. These volunteers were closer to ground zero than any other participants at shot-time, and they received gamma doses ranging from a few millirem to about 14 rem. The volunteer observers at Shots NANCY (24 March 1953), BADGER (18 April 1953), SIMON (25 April 1953), and APPLE 2 (5 May 1955) were also exposed to neutron radiation (11). The first three of these shots were part of Operation UPSHOT-KNOTHOLE and are discussed in section 4.9. The fourth, Shot APPLE 2, was part of Operation TEAPOT and is discussed in section 4.11. The NTPR teams have located current

*See Appendix B, Glossary, for definitions of rem and other technical terms.

addresses and succeeded in contacting 40 of the volunteer observers, as noted in chapter 2 (13).

In June 1979, the DOD notification and VA medical examination program was expanded to include all veterans with doses over 5.0 rem in 12 consecutive months. Five rem is the current Federal guideline for allowable annual dose to radiation workers. The program now includes 1,430 personnel, about 70 percent of whom have been contacted by the NTPR teams. This is a high percentage considering the difficulty of proceeding from records 25 to 40 years old to find the current addresses. The physical examinations given by the VA to these personnel indicate a lower incidence of cancer than the national average (13).

The seventh NTPR task, sponsorship with DOE of an NAS mortality study of test participants, concluded in May 1985 with publication of Studies of Participants in Nuclear Tests. The study, conducted by the NAS National Research Council, was done on a cohort of 46,186 participants in Operations GREENHOUSE (1951), UPSHOT-KNOTHOLE (1953), CASTLE (1954), REDWING (1956), and PLUMBBOB (1957) (19). Chapter 8 discusses this effort, along with the other major followup studies of test participants.

DNA and the NTPR teams have also completed the eighth task, research on the U.S. occupation of Hiroshima and Nagasaki. DNA issued a detailed fact sheet about the occupation forces on 6 August 1980 and has since provided the document to all occupation personnel who have called or written DNA. A detailed dose reconstruction, using assumptions chosen to give an estimate of the maximum possible dose, has also been completed. The conclusion, reported in chapter 6, is that the radiation doses received by members of the occupation forces were negligible (20).

Finally, each NTPR team has assembled extensive data about each nuclear test series and shot for which it had any identified participants. The teams provide claims assistance to individuals and to the VA, which requests their help in documenting participation and determining radiation dose.

The NTPR teams have accomplished most of their original goals. As their work is completed, remaining responsibilities will be consolidated at DNA beginning in fiscal year 1987.

1.5 SUMMARY OF RADIATION DOSES.

Doses to participants at the atmospheric nuclear tests have been determined through several means. Film badge dosimetry, when available, provided a measure of the external gamma doses to persons wearing, or represented by, film badges. The primary source of recorded film badge dose data is the file maintained by Reynolds Electrical & Engineering Company, which is the official master repository of dose records for nuclear weapons tests.

Using contractor support, DNA is providing reconstructed doses that reflect the entire period of exposure, as well as exposure to neutron radiation or internal emitters, for those cases where the recorded dosimetry did not represent the full circumstances of exposure. These dose determinations, described in chapter 7, are based on specific unit activities and the actual radiological conditions. Doses so determined have correlated well with film badge readings when the circumstances of exposure are generally known.

Findings to date indicate that most external gamma doses to personnel at the tests were quite low--averaging about a half a rem. Many participants received no dose at all, and less than one percent exceeded 5 rem, the annual whole body dose limit recommended by the National Council on Radiation Protection and Measurements. Table 4, given at the end of this section, presents data provided by the NTPR teams that show the breakdown of all external gamma doses, both recorded and reconstructed.

The dose totals given in table 4 do not precisely match the estimated numbers of participants for the specific test series given in chapter 4, except for ARGUS, or the estimated total number of DOD participants in the atmospheric nuclear tests. In some cases, multiple badging of individuals led to more doses than participants; in other cases, participants had no film badge doses and reconstructed doses are pending. Moreover, the film badge

Table 4. Summary of external doses for DOD atmospheric nuclear test participants as of 1 May 1986.

Operation	Gamma Dose (rem)						Total
	0-0.5	0.5-1	1-3	3-5	5-10	10+	
TRINITY	105	15	32	10	1	1	164
CROSSROADS	32,236	4,908	2,954	14	0	0	40,112
SANDSTONE	11,706	47	25	2	2	0	11,782
RANGER	241	10	11	3	1	0	266
GREENHOUSE	2,231	954	1,612	2,419	297	18	7,531
BUSTER-JANGLE	7,412	162	190	42	4	0	7,810
TUMBLER-SNAPPER	7,807	598	247	48	9	1	8,710
IVY	8,887	350	91	6	9	10	9,353
UPSHOT-KNOTHOLE	5,442	3,671	5,173	3,044	69	15	17,414
CASTLE	5,114	1,669	4,635	833	252	149	12,652
TEAPOT	3,999	2,646	1,539	127	10	8	8,329
WIGWAM	6,766	1	2	0	0	0	6,769
REDWING	3,966	2,466	2,983	1,601	248	12	11,276
PLUMBBOB	9,866	2,157	958	82	43	7	13,113
HARDTACK I	7,242	3,611	4,614	270	76	7	15,820
ARGUS	4,500	0	0	0	0	0	4,500
HARDTACK II	1,234	118	248	23	7	1	1,631
DOMINIC I	21,591	299	467	22	20	21	22,420
DOMINIC II/ PLOWSHARE	2,155	239	173	4	1	0	2,572
TOTAL	142,500	23,921	25,954	8,550	1,049	250	202,224

dosimetry for still other participants did not cover the entire period of exposure; reconstructed doses will be required in these cases to supplement the doses already recorded. However, while the numbers in table 4 will be adjusted with further research and analysis, the overall results will not change appreciably--the preponderance of doses are expected to remain in the level below 0.5 rem.

During Operations UPSHOT-KNOTHOLE (1953), TEAPOT (1955), and PLUMBBOB (1957), all at the Nevada Test Site, about 10,000 military observers and maneuver troops were exposed to neutron radiation while observing nuclear tests from forward locations in the shot areas. Of these, 44 were volunteers positioned closer to ground zero than the other troops. Through reconstruction methods described in chapter 7, neutron doses for the volunteers were determined to be as high as 28 rem, while the highest neutron dose received by regular troops was 1.5 rem for the 500 observers at Shot TESLA, Operation TEAPOT. Neutron doses to all other troops were calculated to be less than 0.5 rem.

At some operations, the circumstances of radiation exposure were such that some participants may have ingested or inhaled radioactive materials. The internal dose from such exposures, determined through a screening methodology in most cases, resulted in a 50-year bone dose commitment of less than 0.15 rem for over 85 percent of the participants.

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SECTION 2

THE WORK OF THE NTPR TEAMS

While the Defense Nuclear Agency (DNA) has been the executive agent, the Nuclear Test Personnel Review (NTPR) military service teams and a separate team at DNA's Field Command in Albuquerque, New Mexico, have been the executors of the tasks assigned the agency beginning in 1978. These five teams have expended considerable time, personnel effort, and funds meeting their responsibilities. This chapter sketches their common challenges and then traces the efforts and accomplishments of each team.

2.1 COMMON CHALLENGES.

Each NTPR team is responsible for a different constituency and has a distinctive history. At the same time, the teams have shared a number of experiences. They have all, for example, had certain problems with inadequate documentation from the testing period, although some teams have had more difficulties in this area than have the others. These problems have posed challenges to the teams in fulfilling their responsibilities, such as responding to File A personnel, meaning those individuals who called in on the toll-free DNA telephone lines or wrote to the agency concerning their participation in the atmospheric nuclear weapons tests.

2.1.1 Documentation from the Testing Period.

Inadequate documentation has been a significant problem, even though many of the source materials are detailed and useful. The sources, written 20 to 40 years ago, are housed in private, public, and Government repositories scattered across the Nation. In addition, the extant Department of Defense (DOD) records of the atmospheric test program do not emphasize personnel participation and exposure data, as Vice Admiral Robert R. Monroe explained in testimony given on 20 June 1979 before the Senate Committee on Veterans' Affairs (1):

The reason that DOD records do not meet today's needs in this specific area derives from the views of medical science in the 1940s and 1950s concerning the hazards of ionizing radiation. Both national and international authorities at that time were more certain than they are

today that there is negligible health risk from exposure to low-levels of ionizing radiation (e.g., a few rem). Thus the DOD-allowed exposure limits per test or series (typically 3 to 5 rem) were regarded primarily as operational safety guides, and once doses had been kept within these limits, their recording was not, in all cases, accomplished with an eye on permanency.

A major fire at the National Personnel Records Center (NPRC) in St. Louis, Missouri, compounded the difficulties. Beginning on 12 July 1973, the fire burned for 4 days. It caused at least \$13.7 million in damages, and it destroyed 21.7 million records categorized as follows: 17.5 million records of Army personnel discharged between 1912 and 1959; 2,000 records of Army personnel discharged in 1973; and one million records of Air Force personnel whose last names begin with the letters I through Z and who had been discharged between 1947 and 1963. Many other records were water damaged. Only 10 to 15 percent of the 1912-1959 Army records were recovered, while about 40 percent of the Air Force records were salvaged (2: 60,31,36). The destruction of these documents created problems particularly for the Army, as is discussed in section 2.3.

2.1.2 Responses to File A Personnel.

The NTPR program has evolved into a much more extensive effort than had originally been envisioned by Congress, informed Government organizations, even by the NTPR teams. The demanding and lengthy procedure required to respond to File A personnel provides one example of this effort.

According to established guidelines, the NTPR interviewer requests the following information from each caller on the toll-free DNA telephone lines: participant's name, social security number, telephone number, date of birth, address, caller's name, caller's relationship to participant, test series, test event, test location, date of test, participant's receipt of dosimeter, participant's use of dosimeter, armed service rank, service number, unit during test, place of birth, cause of death if participant is deceased, year of death, and remarks. The responsible NTPR team proceeds with a followup letter to the caller providing information on the program. The team then conducts research to secure accurate participation and dose data, which are sent in a final letter to the caller. When the task is completed, each NTPR team will have spent about 7 years responding to its File A personnel.

The teams did not formulate any set approach to processing File A personnel at the beginning of the task. They have, however, generally used the procedures identified below. These procedures, which have evolved over time, have been followed not only for individuals who have called DNA but for all personnel on the data base, including VA cases:

- Collect information
 - Request specified data from each caller on the DNA toll-free lines
 - Archive records from over 100 repositories
 - Gather data from individuals knowledgeable about the atmospheric nuclear weapons tests and personnel participation
- Establish data base to:
 - Identify participants in an orderly fashion
 - Incorporate relevant participation and dosimetry information from medical records, REECo files, Lexington Bluegrass Signal Depot records, as well as some 80 other sources
- Provide missing information
 - Review assembled data for gaps
 - Reconstruct missing data by establishing a scientifically sound and workable methodology
 - Incorporate reconstructed information into the data base
- Develop final response
 - Determine participation and dosimetry information for each caller on the toll-free lines
 - Send a letter providing participation and dosimetry information to each caller.

The final File A letters are the conclusion of a lengthy procedure. The drafting and processing of these letters is a considerable effort in itself, although not so demanding as the preceding research. The Navy NTPR (NNTPR),

which has drafted and sent almost 20,000 final File A letters on participation and dose, estimated the average time spent on this correspondence as follows (3):

Average File A Letter Processing Requirements

<u>Function</u>	<u>Number of People</u>	<u>Time Per Record (min)</u>	<u>NTPR Work Hours Daily (for 30 Records)</u>
Draw Records	1	3	1.5
Process Dose Data	1	10	5
Research/Draft Letter	3	45	22.5
Type Letter	1	15	7.5
Quality Control	1	10	5
Signature	1	2	1
Mail, Refile, Log	1	3	1.5
Supervision	1	8	4
	<u>10</u>	1 Hr. <u>36</u> Min.	<u>48</u> Hrs.

The next sections summarize the work of the NTPR teams beginning with the Navy. The commentary focuses on key efforts, including responses to File A personnel, assignment of doses, notification of medical examination programs, and investigations for VA claims.

2.2 NAVY NTPR EFFORTS.

The Navy NTPR is responsible for tracking the largest group of test participants, 52 percent of the total number reported by the armed services (4). It has identified 106,942 Navy personnel, believed to be virtually all of its participants (5). In addition, the Navy claims about one-third of the approximately 50,000 File A personnel (6).

The NNTPR has had distinct advantages over the other teams in locating its personnel. Most of the Navy participants, for example, were on ships during the tests, and their exact locations could be identified through use of the ship logs and muster rolls. The NNTPR has access, too, to the fine personnel records system maintained by the Navy. Making good use of these advantages, the NNTPR has been the first team to essentially complete the tasks assigned it by DNA.

The NNTPR has concentrated on quality control in the handling and processing of data and has assembled information that will be useful for years to come. With these data, the NNTPR has prepared a number of tables, a sample of which is given below, that summarize its efforts and the participation of Navy personnel in the nuclear tests.

2.2.1 Resources.

The NNTPR office was established at the Pentagon on 21 February 1978. The Project Managers, from the beginning of the effort to the present, have been Captain Thomas H. Sherman, February to April 1978; Captain Andrew G. Nelson, May 1978 to June 1979; Captain James R. Buckley, June 1979 to April 1981; Commander R. Thomas Bell, May 1981 (Acting Project Manager); Captain William H. Loeffler, June 1981 to September 1984; and Commander R. Thomas Bell, October 1984 to present. As of 1 May 1986, the NNTPR had used 195 person years and spent \$9,143,500 (7). The tables below itemize the annual expenditures (8):

NNTPR Personnel Effort--Completed and Planned
(in person years)

	<u>FY78*</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>
Military					
Officer	2.08	4	3.75	2.92	3
Enlisted	0.75	2.17	1.71	2.06	1.25
Civil Service	0.83	3.42	3.62	3	2
Contractor	<u>1.67</u>	<u>29.67</u>	<u>35.07</u>	<u>21.11</u>	<u>15</u>
TOTAL	5.33	39.26	44.15	29.09	21.25

* FY78-FY84: Research and program development phase

NNTPR Personnel Effort--Completed and Planned (Continued)
(in person years)

	<u>FY83</u>	<u>FY84*</u>	<u>FY85</u>	<u>FY86</u>
Military				
Officer	3	3	2	2
Enlisted	1	1	1	1
Civil Service	2	2	1	1
Contractor	<u>14</u>	<u>14</u>	<u>4</u>	<u>4</u>
TOTAL	20	20	8	8

* FY85-on: Maintenance office phase

NNTPR Costs--Expended and Planned
(in thousand dollars)

	<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>
Separately identifiable costs (*)	205	1,524	1,748.1	1,032.7	839
Salaries and benefits (**)	<u>71.6</u>	<u>173.6</u>	<u>177.7</u>	<u>191.7</u>	<u>220.6</u>
TOTAL	276.6	1,697.6	1,925.8	1,224.4	1,059.6

	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
Separately identifiable costs (*)	953	801	300	300
Salaries and benefits (**)	<u>208</u>	<u>210</u>	<u>150</u>	<u>150</u>
TOTAL	1,161	1,011	450	450

*Contracts, services, travel, materials, equipment rental, etc. less items in**.

**Uniformed military and civil service personnel only.

2.2.2 Results.

The NNTPR has identified and assigned external gamma doses to virtually all of the Navy test participants. The summaries in this section detail its fulfillment of assigned responsibilities.

Response to File A Personnel. As of 1 May 1986, the NNTPR had mailed nearly 20,000 File A letters with final statements on participation and radiation dose to Navy personnel who had called in on the DNA toll-free number (5). Approximately 300 additional letters will be sent as dose reconstructions are completed. The NNTPR has also mailed more than 1,500 final letters to Hiroshima/Nagasaki occupation troops and to callers who did not participate either in the occupation or the nuclear tests (9).

Assignment of Doses. The NNTPR has a recorded or a calculated radiation dose for nearly 99 percent of all Navy test participants. The team and its contractors assembled this information by searching through medical and historical records, by using film badge information, and by reconstructing doses when film badges were not available.

The NNTPR has reviewed over 99 percent of the participants' medical records (more than 105,000 records). Researchers accomplished most of this work during a 1-year period, when they examined about 1,700 records a week (6).

Doses had to be reconstructed for more than half the Navy participants since only about 45 percent of these personnel in all the test series had recorded data on exposure. The effort was even greater for Operation CROSSROADS, conducted in 1946 at Bikini as the first postwar nuclear test series. Reconstructed doses were needed for all of the approximately 37,000 Navy participants in this operation. The NNTPR spent more time determining the doses for its CROSSROADS personnel than it did for Navy participants in all the other series combined. Commander R.T. Bell, present NNTPR Project Manager, acknowledged the challenge of CROSSROADS when he referred in an interview to the "massive effort" expended by the NNTPR and its contractors on dose reconstruction (6).

Notification of Medical Examination Programs. The NNTPR has a total of 3 personnel in the Over-25-rem Program, 5 in the Volunteer Observer Program, and 503 in the Over-5-rem Program, as shown in the table below. Approximately 65 percent of those in the Over-5-rem Program participated in Shot BRAVO, which is discussed in section 4.10 as part of Operation CASTLE (1954) (5).

The NNTPR has sent notification letters to all personnel in these programs having identifiable addresses, a number totaling 464. Of this group, 150 participants stated that they wanted the medical examination provided by the Veterans Administration. Only 108, or 23 percent of the personnel notified, actually took the examination (5).

NNTPR Personnel Eligible for Medical Examination Programs (5)

1. Over-25-rem Program	Number
Total	3
Known deceased	1
Notifications sent	3
Replies received	2
Number desiring examinations	0
Number not desiring examinations	0
Number undecided or unspecified	2
Examinations administered	0
2. Volunteer Observer Program	
Total	5
Known deceased	0
Notifications sent	5
Replies received	5
Number desiring examinations	2
Number not desiring examinations	3
Examinations administered	2
3. Over-5-rem Program	
Total	503
Known deceased	58
Notifications sent	456
Replies received	243
Number desiring examinations	148
Number not desiring examinations	95
Examinations administered	106

Investigations for VA Claims. The NNTPR has provided information on participation and dose to the Veterans Administration for 1,045 claims filed for compensation benefits by Navy personnel who believe their diseases or disabilities were caused by their exposure to ionizing radiation during atmospheric nuclear weapons testing (5).

In compiling data for the VA, the NNTPR developed over 360 unit histories, usually from one to three pages, for the ships, squadrons, and staffs associated with the oceanic nuclear tests. These histories specify unit locations and activities during the test series, unit dosimetry data, and, when available, the radiological conditions present (9).

Correspondence Summary. In fulfilling its obligations, the NNTPR has processed considerable amounts of correspondence. The following table summarizes both the type and volume of correspondence for selected years (9):

NNTPR Outgoing Correspondence Totals						
Type	1978	1980	1982	1984	1985	1986
Personal Inquiries	11	1,226	217	218	107	47
VA Request	14	325	132	212	223	62
Congressional	8	46	42	17	20	8
Request from Family	1	25	13	9	18	1
Request from Employer	0	12	8	2	2	0
Miscellaneous	291	58	262	227	164	30
Memorandum for the Record	33	114	58	59	16	1
FOIA	0	2	35	16	24	2
Attorney's Request	0	13	7	6	4	2
Special Medical Letters	0	586	0	0	0	0
Over-5-rem Letters	0	163	13	0	4	0
Medical Records Request	0	483	21	0	2	2
Form Letters	0	552	89	124	135	127
Final File "A" Letters	0	0	5,170	6,632	182	170
Non-Participant Letters	0	0	523	271	9	4
Total	358	3,605	6,590	7,793	910	456

2.3 ARMY NTPR EFFORTS.

The Army NTPR (ANTPR) has the second largest group of participants in the nuclear test series. It has estimated the total number of Army test participants at 50,989, of whom about 77 percent took part in CONUS and 23 percent in Pacific tests.

The ANTPR presented these figures, along with others, in its draft "History of the Army Nuclear Test Personnel Review (1978-1986)," the only such summary developed by an NTPR service team (10). Unless otherwise documented, the following sections are drawn from this 55-page text.

2.3.1 Objectives.

In 1978, the ANTPR began pursuing its assigned tasks by researching Army documents, developing a data base, and corresponding with individual participants (11). It concentrated first on personnel identification and records retrieval for the test series involving Desert Rock troop exercises, performed at the test site to train troops in tactics for possible use on a nuclear battlefield. The series incorporating these exercises were Operation BUSTER-JANGLE (1951), Operation TUMBLER-SNAPPER (1952), Operation UPSHOT-KNOTHOLE (1953), Operation TEAPOT (1955), and Operation PLUMBBOB (1957). This particular focus was selected because of the continuing Centers for Disease Control (CDC) epidemiological investigation of Shot SMOKY, which was one of the PLUMBBOB tests, and because of Congressional requests for information. After completing this phase of the research, the ANTPR team turned its attention to Army participants in the oceanic series of nuclear tests.

ANTPR researched the available service and medical records for participants and reviewed the morning reports of Army units. The effort was challenging because of inadequate documentation of Army personnel participation:

- The 1973 fire at the St. Louis National Personnel Records Center had destroyed at least 85 percent of the Army personnel records for veterans who had left the service from 1912 to 1959.
- About 50 percent of the Army participants in the nuclear tests had taken part in Desert Rock units, which were provisional and thus did not require permanent record keeping.
- The extant records do not provide sufficient information on personnel activities and locations at the test site.

To gain the needed information, ANTPR researchers had to check virtually every morning report for every unit identified as having participated in the

atmospheric nuclear weapons tests. The sheer volume of morning reports made the task time-consuming.

The ANTPR approach, like that of the other NTPR teams, evolved in response to DNA directives, along with Congressional and public needs. By August 1979, the ANTPR team had shifted its primary emphasis from research on individuals to responses to specific groups, such as the over-25-rem and over-5-rem participants, the volunteer observers, and the VA claimants. Section 2.3.3 presents statistics on these efforts.

In late 1982, the ANTPR data entry staff decreased in number, as personnel and financial resources were redirected to handle new priorities within the Army, such as the Agent Orange Task Force. At about the same time, programming and data entry errors created problems in the ANTPR computer system. In early 1983, the ANTPR Program Manager sent a memorandum to the DNA NTPR Program Manager indicating that these problems, along with the decrease in staff, had resulted in considerable curtailment of data entry within the past quarter. DNA and the Army worked together in the latter half of 1983 to identify the difficulties and prescribe solutions.

In a meeting with DNA on 31 January 1984, the Army agreed to provide funds to contract for technical support, especially to purify the ANTPR data base. The contract was awarded in September 1984, and work commenced immediately toward accomplishment of the five major ANTPR tasks, beginning with purification of the data base. Subsequent tasks involve identifying personnel and units, determining radiation exposure and entering information into the ANTPR data base, notifying test participants, and responding to requests for information from veterans, VA, and Congress. With the assistance of its contractor, the ANTPR should meet its objectives by the end of 1987.

2.3.2 Resources.

The ANTPR has had five chief administrators: Colonel Victor J. Hugo, February 1978 to September 1978; Colonel David P. Lucke, September 1978 to October 1979; Lieutenant Colonel Darwin M. Way, 17 October 1979 to June 1980; Mr. Waldemar A. Anderson, June 1980 to March 1981; and Mr. Richard S. Christian, March 1981 to present.

As of 1 May 1986, the ANTPR had used 234 person years and spent over \$5,700,000. The tables below itemize these expenditures on an annual basis. As shown in the table on costs, the expenditures for such items as contracts, services, and equipment increased in fiscal year 1984, when the ANTPR engaged a contractor to purify its data base and provide other technical support (12).

ANTPR Personnel Effort--Completed and Planned
(in person years)

<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
10	41	41	37	37	33	3	16	16

ANTPR Costs--Expended and Planned
(in thousands of dollars)

	<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
1. Separately identifiable costs (contracts, services, travel, materials, equipment rental, etc.) but not including those in item 2 below.	23	25	36	40	160	110	720	730	760
2. Salaries and benefits for uniformed military and Civil Service personnel.	168	448	552	507	558	523	66	150	156

2.3.3 Results.

As work continues on accomplishment of the primary ANTPR tasks, the statistics for the ANTPR programs will change. The numbers given below were current as of 1 May 1986.

Response to File A Personnel. The NTPR call-in program has elicited responses from 14,340 Army participants. This number comprises approximately 30 percent of the total group that has telephoned on the DNA toll-free line or written to the agency (12). The ANTPR will send final letters to these participants when work is completed on dose identification and reconstruction.

Notification of Medical Examination Programs. Among the NTPR teams, ANTPR has the largest number of individuals, a total of 24, in the Volunteer Observer Program. The table below shows statistics of this program, as well as the Over-25-rem and Over-5-rem Programs (12). The ANTPR has notified all personnel in these programs who have identifiable addresses.

ANTPR Personnel Eligible for
Medical Examination Programs

1. Over-25-rem-Program	Number
Total	4
Known deceased	1
Notifications sent	4
Replies received	2
Number desiring examinations	1
Number not desiring examinations	1
Examinations administered	1
2. Volunteer Observer Program	
Total	24
Known deceased	2
Notifications sent	24
Replies received	11
Number desiring examinations	5
Number not desiring examinations	6
Examinations administered	1
3. Over-5-rem-Program	
Total	389
Known deceased	38
Notifications sent	178
Replies received	95
Number desiring examinations	58
Number not desiring examinations	37
Examinations administered	58

Investigations for VA Claims. The ANTPR has provided participation, unit histories, and dose data for 812 VA claims filed by Army veterans for compensation benefits from the VA (12). ANTPR spends more time per VA claim than the other NTPR teams because of the inadequate documentation of Army personnel participation, discussed earlier. To provide VA with the necessary

information, ANTPR researchers must scrutinize individual unit morning reports and secondary sources to verify claimants' participation in the nuclear tests.

2.4 AIR FORCE NTPR EFFORTS.

The Air Force NTPR (AFNTPR) team is responsible for about 25,000 participants, which is approximately 12 percent of the total number of U.S. nuclear test participants. It was tasked with assembling participant and dose information for its personnel in those series postdating 1947, when the Air Force was established as a separate military service. The Army Air Force personnel who took part in the two preceding operations, TRINITY (1945) and CROSSROADS (1946), are the responsibility of the ANTPR. The exception involves Army Air Force participants who later entered the Air Force and took part in subsequent nuclear test series. DNA assigned responsibility to AFNTPR for compiling Army and Air Force records on these personnel in response to claims filed with the Veterans Administration (13).

2.4.1 Resources.

The AFNTPR Team Chief, part of the Air Force Surgeon General's office, oversees the effort, which is conducted at the Air Force Occupational and Environmental Health Laboratory (OEHL), Brooks Air Force Base (AFB). OEHL has a radiation services division and is a logical organization for involvement.

AFNTPR was officially established in March 1979. During 1978, when a basis was being laid for the AFNTPR, Lieutenant Colonel George S. Kush, USAF, attended NTPR meetings. The first AFNTPR Team Chief was Colonel Paul F. Fallon, who held the position from March 1979 to February 1984. His successor is Colonel William D. Gibbons, February 1984 to the present. The following Project Officers have managed the AFNTPR office at OEHL: Captain John L. Ricci, September 1978 to September 1979; Captain Robert J. Berger, September 1979 to May 1981; Captain David S. Pitts, May 1981 to June 1985; Mr. John A. Herman, June 1985 to January 1986; and Mr. William D. Holland, January 1986 to present.

As of 1 May 1986, the Team Chiefs and Project Officers had overseen a total AFNTPR expenditure of 175 person years and \$3,924,000 (14). The numbers

were largest in the early 1980s, as with the other service teams. The following tables indicate the annual expenditures (14; 15):

AFNTPR Personnel Effort--Completed and Planned
(in person years)*

<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
0.18	7.65	33.7	44.30	38.30	25.5	16.0	7.0	2.0

*Does not include Air Staff time.

AFNTPR Costs--Expended and Planned
(in thousands of dollars)*

	<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
1. Separately identifiable costs (contracts, services, travel, materials, equip. rental, etc.) but not including those in item 2 below.	1.5	148	525	722	590	486	7	2.5	1.50
2. Salaries and benefits for uniformed military and civil service personnel.*	4.1	100	187	285	315	231	236	58	24
TOTAL	5.6	248	712	1007	905	717	243	60.5	25.5

*Does not include salaries for Air Staff.

2.4.2 Results.

The AFNTPR has successfully completed most of its tasks. Team Project Officers attribute much of the success to a solid research effort, conducted at such sites as Brooks AFB, Kirtland AFB, Maxwell AFB, Randolph AFB, Scott AFB, Tinker AFB, Los Alamos National Laboratories, and Reynolds Electrical & Engineering Company of Las Vegas (13).

Response to File A Personnel. The AFNTPR has essentially finished its File A effort, meaning its letters to participants who called DNA on the toll-free number. The team has completed 8,047 File A cases, which comprises 100 percent of the currently known Air Force cases. Should DNA forward any additional cases, AFNTPR is prepared to conduct the necessary research (14).

The AFNTPR has been responsible for a lesser number of File A personnel than have the NNTPR and the ANTPR. The task for the AFNTPR has been compounded, however, because many Air Force participants attended more than one series and thus required comparatively more research.

Assignment of Doses. The compilation of dose information for Air Force test participants is also nearing completion. As of 1 May 1986, the AFNTPR had identified 23,403 of the estimated total participants (14). This data base will become an integral part of the Air Force Master Radiation History Repository at OEHL.

Notification of Medical Examination Programs. The Air Force has 32 participants in the Over-25-rem Program, which is the largest number of participants for this program among the NTPR teams. Twenty five of the Air Force participants were stationed on Rongerik Island and took part in Shot BRAVO of the 1954 Operation CASTLE (see section 4.10).

Cloud-sampling pilots and crews often received higher doses than did other test participants because their missions required them to fly near and through the clouds resulting from the nuclear detonations. The cloud-sampling teams were commonly authorized special exposure limits so they could accomplish their assigned tasks. As noted in chapter 4, these limits ranged from 3.9 rem at such series as BUSTER-JANGLE, TUMBLER-SNAPPER, IVY, UPSHOT-KNOTHOLE, and TEAPOT, among others, to 10 rem at Operation HARDTACK II and 20 rem at Operation DOMINIC I.

The next table presents statistics on the Over-25-rem Program, the Volunteer Observer Program, and the Over-5-rem Program. The AFNTPR has notified all personnel in these categories that have identifiable addresses (14).

AFNTPR Personnel Eligible for
Medical Examination Programs

1. Over-25-rem-Program	Number
Total	32
Known deceased	2
Notifications sent	30
Replies received	22
Number desiring examinations	18
Number not desiring examinations	4
Examinations administered	11
2. Volunteer Observer Program	
Total	6
Known deceased	1
Notifications sent	5
Replies received	3
Number desiring examinations	0
Number not desiring examinations	3
Examinations administered	0
3. Over-5-rem-Program	
Total	508
Known deceased	61
Notifications sent	334
Replies received	185
Number desiring examinations	138
Number not desiring examinations	47
Examinations administered	53

Investigations for VA and Department of Labor Claims. The AFNTPR has provided participation and dose information to the Veterans Administration for 266 VA claims filed by Air Force test participants (14). It had given the same kinds of data to the Department of Labor (DOL) for the one DOL claim filed by a civilian working under contract to the Air Force during nuclear testing (16).

2.5 MARINE CORPS NTPR EFFORTS.

The Marine Corps NTPR (MCNTPR) is responsible for an estimated 11,500 participants in the atmospheric nuclear weapons tests. To provide participation and dose information for these personnel, the MCNTPR developed and continues to pursue a vigorous outreach program, which is one of the most distinctive characteristics of its efforts. The MCNTPR has completed most of its assigned tasks, as noted below.

2.5.1 Resources.

From its inception in early 1978 to the present, the MCNTPR has engaged a total of 26 Marine Corps personnel, including four Project Coordinators: Major Rafael Negrón, January 1978 to April 1979; Captain James W. McNabb, May 1979 to June 1982; Major Michael J. Shinabeck, July 1982 to May 1983; and Major Daniel G. Martínez, May 1983 to present.

As of 1 May 1986, the MCNTPR effort had cost a total of 39 person years and \$832,000. The largest expenditures were during 1980-82, as shown in the following tables (17; 18):

MCNTPR Effort--Completed and Planned (in person years)

<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY 86</u>
1.5	4.8	6.8	6.5	6.5	4.0	3.0	3.0	3.0

MCNTPR Costs--Expended and Planned (in thousands of dollars)

<u>FY78</u>	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>
22	77	168	160	160	70	50	60	65

The dollar costs are for salaries and benefits. Specific data are not available for contracts, services, travel, materials, and equipment rental during FY78 through FY85, although the expenditures were minimal. The cost for equipment procurement has been negligible since the MCNTPR's inception.

2.5.2 Results.

The personnel effort and dollar costs have brought some "positive results," to quote Major Daniel Martínez, the present MCNTPR Project Coordinator (19). This section discusses accomplishments beginning with the Outreach Program, which includes commentary on the MCNTPR response to File A personnel.

Outreach Program. One of the specific NTPR tasks, as noted in the latest as well as all previous NTPR Fact Sheets, is to "establish personal contact with as many test participants as possible" (20). Both the NNTPR and the MCNTPR developed active outreach programs, with the MCNTPR making this effort its highest priority in 1985 and 1986. The emphasis resulted in a considerable amount of additional information from participants who had not yet contacted DNA.

As of 1 May 1986, the MCNTPR had sent letters with information on participation and radiation dose to 3,600 of the 4,500 Marine Corps personnel who used the toll-free DNA telephone number or wrote to the Agency. The correspondence went to all participants having identifiable addresses. Because addresses had changed and return addresses had not been given, 325 of the letters were returned (21).

The MCNTPR has used and continues to use several strategies to locate additional personnel. One of the first involved a computer comparison check between known participants in the nuclear tests and retired Marines. Personnel who had not yet contacted DNA were sent questionnaires filled in with available information. They were asked to check the incorporated data, complete, and then return the forms in the stamped and addressed envelopes that had been enclosed (22). The last of these questionnaires were mailed in August 1985.

The MCNTPR has had good success with advertisements in periodicals, such as Leatherneck Magazine and the Marine Corps Gazette, and letters to Marine Corps associations celebrating reunions. Among the groups recently contacted are the 1st, 2nd, 3rd, 4th, 5th, and 6th Marine Division Associations; the Marine Corps League; and the Woman Marines Association. The MCNTPR sent 3,000 copies of the circular shown in figure 2 to the 2nd Marine Division. This circular alone drew 500 responses (22). Through the Outreach Program, the MCNTPR team has, to quote from the letter sent to the 2nd Marine Division Association, collected "useful information that normally cannot be obtained from service records."



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380-0001

May 1984

Second Marine Division Association Members

Dear Fellow Marine:

Please excuse the informality of this letter, but this is the best way for me to get in touch with you.

Since 1978, the Marine Corps Nuclear Test Personnel Review (NTPR) has been trying to identify every Marine who participated in at least one nuclear weapon event. The purpose of the NTPR is to compile data on Marines who could have been exposed to weapon-induced ionizing radiation. NTPR data will be studied in an effort to elucidate the health effects of exposure to low-level ionizing radiation. The Defense Nuclear Agency (DNA) is the NTPR executive agency for the Department of Defense.

Marines of the Second Marine Division have taken an active role in America's use and development of nuclear weapons. Nagasaki, Japan, was destroyed by a nuclear weapon on August 9, 1945, and Second Division Marines occupied that area some six weeks later. Between 1945 and 1962, the United States conducted 235 atmospheric nuclear weapon detonations and tests in which many Second Division Marines participated.

If you participated in the post World War II occupation of Nagasaki or in at least one nuclear weapon test, I urge you to call DNA's toll-free NTPR telephone number. Call 800-336-3068 to provide some basic information about your role in nuclear weapon-related events. If you know other Marines whom we might be interested in hearing from, please pass this information on to them.

It has been our experience that Marines are able to provide for the NTPR much useful information that normally cannot be obtained from service records. To contact the Marine Corps NTPR, write to Commandant of the Corps (Code MMRB-60), Washington, D.C. 20380. If you already have contacted DNA, please keep your mailing address current by calling the toll-free number.

Best wishes to you, and I hope that your reunion will be a great success.

Sincerely,

D. G. MARTINEZ
Captain, U.S. Marine Corps Reserve
Project Coordinator
Marine Corps Nuclear Test Personnel Review
By direction of the Commandant of the Marine Corps

Figure 2. Letter sent to the Second Marine Division Association as part of the MCNTPR Outreach Program.

Assignment of Doses. The MCNTPR has verified the participation of 11,046 of the estimated 11,100 Marine Corps test participants. It has dose information for 10,788, or approximately 98 percent, of these participants (21).

Radiation doses for the remaining participants are being determined according to the procedures identified in chapter 7.

Notification of Medical Examination Programs. The MCNTPR and the Field Command NTPR (see section 2.6) are the only NTPR teams having no personnel in the Over-25-rem Program. Six Marine Corps personnel are in the Volunteer Observer Program and 29 in the Over-5-rem Program, as shown in the next table. The MCNTPR has notified all of the participants, a total of 27, who have identifiable addresses (21).

MCNTPR Personnel Eligible for Medical Examination Programs

1. Volunteer Observer Program	Number
Total	6
Known deceased	0
Notifications sent	6
Replies received	6
Number desiring examinations	4
Number not desiring examinations	1
Number undecided or unspecified	1
Examinations administered	3
 2. Over-5-rem Program	
Total	29
Known deceased	3
Notifications sent	21
Replies received	13
Number desiring examinations	11
Number not desiring examinations	1
Number undecided or unspecified	1
Examinations administered	4

Investigations for VA Claims. The MCNTPR has provided participation and dose information for 179 VA claims filed by Marine Corps personnel (21).

2.6 FIELD COMMAND NTPR EFFORTS.

Among the NTPR teams, the Field Command NTPR (FCNTPR) is responsible for the group of nuclear test participants most difficult to track and quantify. DNA tasked the FCNTPR with providing information about and to nonmilitary DOD participants categorized as follows: civilians from the Secretary of Defense level and their contractors, civilians and their contractors from agencies other than DOD and DOE, and invited U.S. and foreign observers of the nuclear tests. The FCNTPR has identified about 6,000 participants in the given groups and will assume responsibility for the remaining personnel who cannot be identified with one of the services (23).

2.6.1 FCNTPR Tasking.

On 1 May 1951, the organization that today is Field Command was established as part of the Armed Forces Special Weapons Project (AFSWP). AFSWP was redesignated the Defense Atomic Support Agency in 1959 and then the Defense Nuclear Agency in 1971. On 7 June 1978, DNA sent a tasking letter to Field Command DNA requiring it to function generally "in the same manner as the four military services to provide an input to the NTPR covering the personnel of AFSWP, and their contractors and laboratories for all atmospheric tests" (24).

William S. Isengard, the first FCNTPR Project Officer, noted that FCNTPR was starting "several months downstream" of the other NTPR teams and that the delay was both bad and good. The disadvantage was that FCNTPR would have "less time" for research on Shot SMOKY and the other nuclear tests. The advantage was that FCNTPR could learn from the experience of the other teams (24).

2.6.2 Resources.

Field Command recognized the challenge of the NTPR tasking and acknowledged that "some of our best people;" those "capable of working independently with a minimum of day-to-day supervision," would be required. The personnel needed would include at least two researchers and a computer systems analyst/programmer (24). Beginning in 1979 and continuing to the present, the FCNTPR team has usually consisted of three persons, military and civilian. The following Project Officers have coordinated the team: Mr. William S. Isengard, 1978; Major James E. Thomas and Major David E. Hansen, 1979; Captain Mark L.

Davis, 1980 to August 1982; Major Joe A. Stinson, August 1982 to present. As of 1 May 1986, the FCNTPR effort had cost 24 person years and \$240,000 (25; 26). The annual FCNTPR budget, excluding military pay, has been about \$29,000 and has included salaries and benefits for civilian personnel, transportation, equipment, supplies and materials, and contracted services (23).

2.6.3 Results.

Compared to the other NTPR teams, FCNTPR has had a greater challenge identifying its personnel, their participation, and their doses. The FCNTPR has lacked good source documents. Unlike their counterparts on the other teams, FCNTPR researchers have not been able to use ship logs, morning reports, or the records generated by military retirement pay centers. Moreover, they have experienced difficulties finding information on certain DOD contracting organizations, many of which no longer exist. To assist research on these organizations, Major Stinson has developed and published a reference book listing the contracting organizations that have been identified (27).

Response to File A Personnel. The FCNTPR has contacted over 500 participants who used the DNA toll-free lines. Many of these participants have, however, been transferred to the other NTPR teams. As of 1 May 1986, the FCNTPR File A consisted of 297 participants. The team has sent final letters on participation and dose to 119 of these personnel. The status of the remaining 178 participants is as follows (25; 26):

- Dose reconstructions are required for 34 personnel.
- FCNTPR is awaiting information from 14 personnel concerning their test participation.
- FCNTPR cannot locate current addresses or does not have sufficient data to determine test participation for 130 participants.

FCNTPR researchers also have identified approximately 500 Canadian observers of the Continental United States (CONUS) tests and believe there may have been as many as 500 more. FCNTPR has received permission from DNA to contact the Canadian Government concerning these personnel (23).

Notification of Medical Examination Programs. The FCNTPR has dose information, primarily from film badges, for almost all of its personnel. Unlike the other NTPR teams, it has no participants in the Over-25-rem Program or the Volunteer Observer Program. The team has only one participant in the Over-5-rem Program. Researchers have not succeeded in finding a current address for this individual (23).

Investigations for Department of Labor Claims. None of the Field Command personnel has filed a claim with the Department of Labor (23).

SECTION 2

REFERENCE LIST

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12. Memorandum for the Defense Nuclear Agency (STBE-NTPR), Subject: NTPR Historical Report. MAJ Arthur G. Samiljan, Chief, Health Physics Program Office, Dept of the Army. Wash., DC. 19 May 86.
13. Interview of Capt David Pitts, USAF, and John Herman. Abby A. Johnson. San Antonio, TX. 23 May 85.
14. Memorandum for DNA/NTPR (Mr. Boren), Subject: NTPR Historical Report. Col William D. Gibbons, USAF. AFNTPR. Headquarters United States Air Force, Bolling AFB, Wash. DC. 30 May 1986.

SECTION 2

REFERENCE LIST (Continued)

15. Memorandum for the Record, Subject: AFNTPR Program Summary--Personnel Effort Completed and Estimated (in Person-Years), 31 Mar 85. Capt David Pitts, USAF. AFNTPR. Brooks AFB, TX. 23 May 85.
16. Air Force NTPR Program Summary. John Herman. AFNTPR. Brooks AFB, TX. Jun 85.
17. Marine Corps Nuclear Test Personnel Review Program Summary--Expended and Estimated Costs. [Encls 1-6, to a ltr to David Auton, dtd 1 Apr 85.] MAJ Daniel G. Martinez, USMCR. MCNTPR. Wash., DC. Mar 85.
18. Personal Communication with MAJ Daniel G. Martinez, USMCR. Abby A. Johnson. McLean, VA. 10 July 1986.
19. Interview of MAJ Daniel G. Martinez, USMCR. Abby A. Johnson. McLean, VA. 14 May 85.
20. Fact Sheet: Nuclear Test Personnel Review (NTPR). DNA, Public Affairs Office. Wash., DC. Apr 84. 10 p.
21. Marine Corps Nuclear Test Personnel Review Program Summary. [Encls 1-8, to a ltr to David Auton.] MAJ Daniel G. Martinez, USMCR. MCNTPR. Wash., DC. 1 Jul 86.
22. Interview of MAJ Daniel G. Martinez, USMCR. Abby A. Johnson. Arlington, VA. 16 May 85.
23. Interview of MAJ Joe A. Stinson, USA, SSG William Seller, USA, and Rhonda Cervantes. Abby A. Johnson. Kirtland AFB, NM. 11 Jul 85.
24. D/F, Subject: Trip Report. William S. Isengard, Project Officer. FCNTPR. [Albuquerque, NM.] 8 Jun 78.
25. Memorandum for Director, Defense Nuclear Agency (STBE), Subject: Review of For the Record: A History of the Nuclear Test Personnel Review Program, 1978-1986, 2nd Draft. MAJ Joe A. Stinson, USA. FCNTPR. Kirtland AFB, NM. 3 March 86.
26. Personal Communication with MAJ Joe A. Stinson, USA. Abby A. Johnson. McLean, VA. Jun 86.
27. Reference Book of Nuclear Testing Contractors, 1945-1965. MAJ Joe A. Stinson. DNA-TR-86-12. May 86. 86 p.

*Site here
Data Base*

CHEMICAL WEAPONS EXPOSURE DATABASE - SITES OF WEAPON ACTIVITY

SERVICE LOCATION of Event	STATE	AGENT	TYPE OF INVOLVEMENT	START DATE	END DATE	BRIEF NARRATIVE	EXPOSED INDIVIDUALS
ARMY AMORY	MS	MUSTARD GAS	DISPOSAL	4607	4607	DISPOSAL OF CONTAMINATION	2
ARMY ATLANTA	GA	MUSTARD GAS	DISPOSAL	46	46	DISPOSAL OF CONTAMINATION	.
ARMY BRAITHWAITE	LA	H	DISPOSAL	44	44	DISPOSAL OF CONTAMINATION	3
ARMY BROOKSVILLE ARMY AIR BASE	FL	MUSTARD GAS	DISPOSAL	46	46	DISPOSAL OF CONTAMINATION	.
ARMY BUSHNELL	FL	MUSTARD GAS	TEST SITE	41	45	WWII TROPIC TEST SITE	.
ARMY CAMP SIBERT	AL	VARIOUS	TRAINING	41	45	WWII TOXIC CHEMICAL TRAINING PROGRA	.
ARMY CHARLESTON ARMY DEPOT	SC	H	STORAGE	41	45	WWII STORAGE LOCATION	.
ARMY CHARLESTON ARMY DEPOT	SC	H	DISPOSAL	41	45	DISPOSAL OF CONTAMINATION	.
ARMY COLUMBUS ARMY AIR BASE	MS	MUSTARD GAS	DISPOSAL	4607	4607	DISPOSAL OF CONTAMINATION	.
ARMY DUCHAY PROVING GROUND	UT	MUSTARD GAS	TEST SITE	41	45	WWII TEST SITE	.
ARMY FORT GREELY	AK	VARIOUS	DISPOSAL	53	68	DISPOSAL SITES	.
ARMY FORT GREELY	AK	VARIOUS	TEST SITE	53	68	TEST SITES	.
ARMY FORT GREELY	AK	VARIOUS	STORAGE	53	68	STORAGE SITES	.
ARMY HORN ISLAND	MS	MUSTARD GAS	DISPOSAL	4607	4607	DISPOSAL OF CONTAMINATION	.
ARMY MEMPHIS GENERAL DEPOT	TN	MUSTARD GAS	DISPOSAL	4607	4607	DISPOSAL OF CONTAMINATION	24
ARMY MOBILE	AL	H	DISPOSAL	46	46	SEA DUMP	.
ARMY MODEL CITY	NY	PHOSGENE	DISPOSAL	44	45	DISPOSAL OF CONTAMINATION	.
ARMY MODEL CITY	NY	PHOSGENE	STORAGE	44	45	WWII STORAGE DEPOT	.
ARMY PANOLA	AL	MUSTARD GAS	DISPOSAL	4607	4607	DISPOSAL OF CONTAMINATION	.
ARMY SAN JACINTO ORDNANCE DEPOT HOUSTON	TX	MUSTARD GAS	PRODUCTION	46	46	DISPOSAL OF CONTAMINATION	.
ARMY SAVANNA ARMY DEPOT	GA	MUSTARD GAS	DISPOSAL	47	47	DISPOSAL OF DAMAGED PROJECTILES	.
ARMY SAVANNA ARMY DEPOT	GA	MUSTARD GAS	STORAGE	47	47	PACKING OF PROJECTILES FOR SHIPMENT	.
ARMY SAVANNA ARMY DEPOT	GA	MUSTARD GAS	STORAGE	49	49	PACKING OF PROJECTILES FOR SHIPMENT	.
ARMY SAVANNA ARMY DEPOT	GA	MUSTARD GAS	STORAGE	66	66	PACKING OF PROJECTILES FOR SHIPMENT	.
ARMY SAVANNA ARMY DEPOT	GA	MUSTARD GAS	STORAGE	42	47	RECEIPT, STORAGE AND ISSUE	.
ARMY TOCELE ARMY DEPOT	UT	VARIOUS	DISPOSAL	45	70	DISPOSAL SITES	.
NAVY U.S. NAVAL MAGAZINE, TRECOORE	AL	MUSTARD GAS	DISPOSAL	4606	4607	UNLOADING OF SS FRANCIS L. LEE	24)

TABC



TAB A11



OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

July 12, 1993

MEMORANDUM FOR INFORMATION RESOURCES MANAGEMENT, ODASD(R&R)
ATTN: MARTHA E. HAMED

SUBJECT: Notice of Information Collection Approval

Attached for your information and records is the approved SD Form 455, "Request for Approval of Information Collection," for the new internal information collection entitled "Chemical Weapons Exposure Study Report, with an expiration date of June 4, 1996.

Request the estimated cost to the Services to implement this new requirement and the annual cost to submit reports be provided to this office no later than August 6.

If you have any questions or problems, please call me at 614-8989.

A handwritten signature in cursive script, appearing to read "Mary V. Orr".

Mary V. Orr

Management Information Analyst
Intergovernmental Affairs

Atch
As Stated

REQUEST FOR APPROVAL OF INFORMATION COLLECTION

(See instructions on reverse)

1. FROM (OSD organization name, directorate, and mailing address) OASD (FM&P) Requirements & Resources Information Resources Management Office	Room 3E763 The Pentagon Wash, DC20301	2. DATE OF REQUEST (YYMMDD) 93/05/20
--	---	---

3. INFORMATION REQUIREMENT DATA		
a. REPORT TITLE Chemical Weapons Exposure Study Report	b. (X one) <input checked="" type="checkbox"/> NEW <input type="checkbox"/> REVISED	c. EXISTING REPORT CONTROL SYMBOL (RCS) (if applicable) DD-
d. FREQUENCY AR	e. INITIAL DUE DATE (YYMMDD) 93/07/31	f. RELATED REQUIREMENTS (RCS's)
		g. FORM NO.(S) (if applicable)
		h. SYSTEM RECORDS NO

4. APPLICABLE DOCUMENTS (List number(s) next to type)		5. ESTIMATED COST OF REQUIREMENT					
	(1) PRESCRIBING	(2) REPLACED	RESPONDENT NAME	INITIAL ONE-TIME COST	ANNUAL RECURRING COST		TOTAL ESTIMATED COST
			a.	b.	NUMBER REPORTS IN YEAR	COST PER REPORT	COST PER YEAR
a	DOD ISSUANCE		U. S. Army	(COST ESTIMATES TO IMPLEMENT THIS REQUIREMENT HAS BEEN REQUESTED FROM THE SERVICES; IT WILL TAKE SOME TIME TO COME UP WITH THE ESTIMATED COST. THE ESTIMATES FOR THIS COLLECTION WILL BE PROVIDED AT A LATER DATE.)			
b	STATUTORY		U. S. Navy				
c	INTERAGENCY		U.S.AirForce				
d	OTHER (e.g. Memo)	DEPSECDEF (Copy Atatch) Memo 93/03/09					
e	FORMS						

6. JUSTIFICATION OF SPECIFIC NEED FOR THIS INFORMATION REQUIREMENT: By Memorandum dtd 3/9/93 DEPSECDEF directed Military Depts. to cooperate in locating and providing specific info on DoD chemical weapons testing programs using human test subjects, as well as info on persons who may have been exposed to such agents during production, transportation, storage activities. This info is to be located and identified for declassification and so that individuals who may have been exposed can be identified, notified and compensated, if warranted, or provided treatment at Veterans' Affairs medical facilities. Since there is no central repository for these records, Military Departments have been directed to review their current archived and historical records for specific information related to human exposure. Info collected will form basis of a central DoD database containing test sites, records storage or archival sites, and as many names of potentially exposed persons as possible. Records collection will begin with documentation from WWII(1940's) timeframe and progress to present. Info will be used to assist Veterans' Affairs and Department of Labor in validating claims for disability compensation. Since records span a fifty year period, and many of the potentially exposed persons are elderly, expeditious identification and collection of these records is critical. The initial requirement for this information was based on Congressional hearings; further hearings are anticipated.

7. COORDINATION (Do not complete if this information collection is contained in an approved DoD issuance)			8. PROJECT OFFICER	
a. NAME	b. ORGANIZATION	c. PHONE NO	a. TYPED NAME	b. SIGNATURE
LTC Mike Brown	Army/DAMO	697-5422	Martha E. Hamed IA/IRM	<i>Martha E. Hamed</i>
CAPT Jim Cecil	Navy NMRDC	301-295-1825		
COL Mike Browne	USAF SAF/MIO	697-9297		
Dr. Forest Frank	DTIC	284-6260		
			9. REQUESTING ORGANIZATION APPROVING OFFICIAL	
			a. TYPED NAME	b. SIGNATURE
			Norma J. St. Claire Director, IRM	<i>Norma J. St. Claire</i>
			10. INFORMATION MANAGEMENT CONTROL OFFICER (IMCO)	
			a. TYPED NAME	b. SIGNATURE
			Mary T. Orr	<i>Mary T. Orr</i>

11. FOR USE OF OSD/WHS/DIOR (INFORMATION CONTROL DIVISION)			
a. REPORT CONTROL SYMBOL (RCS) DD- FM&P(AR)1919	b. EXPIRATION DATE (YYMMDD) 960604	c. SIGNATURE <i>[Signature]</i>	d. DATE SIGNED (YYMMDD) JUN - 4 1993



9 MAR 1993

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
COMPTROLLER
GENERAL COUNSEL
INSPECTOR GENERAL
DIRECTOR OF OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR OF ADMINISTRATION AND MANAGEMENT
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Chemical Weapons Research Programs Using Human
Test Subjects

On January 6, 1993, the National Academy of Sciences Institute of Medicine published a report titled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite." Based on the findings of the report, Congressional inquiries, and requests from the Department of Veterans' Affairs, I am releasing any individuals who participated in testing, production, transportation or storage associated with any chemical weapons research conducted prior to 1968 from any non-disclosure restrictions or written or oral prohibitions (e.g., oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents. I am also declassifying documents for all chemical weapons research studies conducted prior to 1968, with respect to the issues of personnel health and safety as specified below:

[a. The location of each U. S. chemical weapons research program (chamber, field and patch) which used human subjects, the type of chemical(s) tested (e.g., sulfur or nitrogen mustard), and the start and finish dates of each test including preliminary research;

[b. Identification of each military unit stationed at each research site during the testing period, and the name, service or social security number, and military unit of each individual known to have participated in a chemical weapons research or testing program (chamber, field, and patch); and

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c. The location of all facilities at which individuals participated in the production, transportation or storage of these chemical agents to include: the dates on which storage or production was begun and terminated; identification of each military unit stationed at each storage or production site; and the name, service or social security number, and military unit of each service member known to have participated in production, transportation, or storage of these chemical agents.

Secretaries of the Military Departments are tasked with the following actions:

a. Initiate procedures to fully cooperate in locating and providing the above specified information. Please ensure that the information is provided in such a way as to maintain the integrity of our records and meet Privacy Act requirements.

b. Initiate procedures to declassify documents with respect to the issues listed above for chemical weapons research studies conducted after 1968, including studies performed in support of other Federal agencies; and, release participants from any non-disclosure restrictions (e.g. oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents during testing, production, or transportation of such chemicals. If there are any reasons that would prevent declassification of this material, those reasons should be provided to the Assistant Secretary of Defense (Force Management and Personnel) (ASD(FM&P)), in writing.

Information on the location, chemicals tested, and dates of each chemical weapons research program should be provided immediately. Personnel information should be provided to the ASD(FM&P) by July 31, 1993. Our goal is to provide information to the Department of Veterans' Affairs as soon as possible.

I fully recognize that some of this information may not be readily available. I expect a comprehensive search, however, to ensure that our current and former members receive the assistance and support to which they are entitled. I am directing the Assistant Secretary of Defense (Force Management and Personnel) to establish a task force to monitor the status of these actions. By March 31, Secretaries of the Military Departments should designate points of contact to Ms. Norma St. Claire, OASD(FM&P), (703) 696-8710.

William J. Lewis

INFORMATION COLLECTION PRIORITIES

1. Identification of all chemical weapons tests conducted on human subjects, to include:
 - a. Site location.
 - b. Date(s) of test(s).
 - c. Agent(s).
 - d. Type of test(s) (chamber, field and/or patch).
2. Identification of locations where source data on sites and individuals (human participants) may be found, to include:
 - a. Location.
 - b. Records (total number, number still classified, etc.).
 - c. Test subjects (number and identification data), especially those subjected to whole body exposure.
 - d. Document indexes.
3. Identification of units involved in testing (by test).

G. V. (SONNY) MONTGOMERY MISSISSIPPI
DON EDWARDS CALIFORNIA
DOUGLAS RUFFALO OHIO
LANE EVANS ILLINOIS
TIMOTHY J. KENNY MINNESOTA
J. ROY ROYLANDO GEORGIA
JIM SLATTERY KANSAS
JOSEPH P. KENNEDY II MASSACHUSETTS
GEORGE E. SANGMEISTER ILLINOIS
JULI L. LONG INDIANA
CHET EDWARDS TEXAS
MAXINE WATERS CALIFORNIA
BOB CLEMENT TENNESSEE
BOB FILNER CALIFORNIA
MARK TEXEDA TEXAS
LUIS V. GUTIERREZ ILLINOIS
SCOTTY BAESLER KENTUCKY
SAMFORD BISHOP GEORGIA
JAMES E. CLYBURN SOUTH CAROLINA
MICHAEL KREIDLER WASHINGTON
CONNIE BROWN FLORIDA

ONE HUNDRED THIRD CONGRESS

G.V. (SONNY) MONTGOMERY

CHAIRMAN

U.S. House of Representatives

COMMITTEE ON VETERANS' AFFAIRS

335 CANNON HOUSE OFFICE BUILDING

Washington, DC 20515

CHRISTOPHER H. SMITH NEW JERSEY
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TIM HUTCHINSON ARIZONA
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JACK QUINN NEW YORK
SPENCER BACMUS ALABAMA
JOHN LINDER GEORGIA

MACC FLEMING
STAFF DIRECTOR AND CHIEF COUNSEL

January 22, 1993

OFFICE OF THE
SECRETARY OF DEFENSE
93 JAN 26 PM 12: 58

Honorable Les Aspin
Secretary of Defense
Room 3E880, The Pentagon
Washington, DC 20301-1000

Dear Mr. Secretary:

The report, "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," recently issued by the Institute of Medicine, National Academy of Sciences, provides important new information on secret U.S. chemical weapons programs during World War II. Of particular importance to this Committee and the Department of Veterans Affairs is the finding that an estimated 60,000 military personnel participated as human experimental subjects in tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite and unknown numbers of additional servicemembers may have been exposed to these agents through their participation in the production, transportation and/or storage of these chemical agents. In addition, this report contains information which is particularly significant with respect to submission of claims to VA for service-connected disability compensation for conditions believed to be caused by exposure to one or more of these chemical agents and adjudication of those claims.

The report indicates orders to maintain the secrecy of these programs given servicemembers more than forty years ago have been faithfully obeyed. As a result, many veterans reportedly have not filed claims with VA for compensation for service-connected disabilities believed to have resulted from exposure to one or more of these chemical agents during military service, because to file such a claim would require divulging information ordered to be kept secret. Fifty years after-the-fact, the interest of the government in maintaining secrecy about the chemical weapons programs conducted by the U.S. during World War II must be secondary to the government's responsibility to the veterans who participated in these once-secret programs. Official removal of unnecessary secrecy surrounding these programs is essential so all servicemembers who participated in these programs and believe they incurred a service-connected disability as a result of their

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service may feel free to file a claim for compensation. Action should be taken immediately to countermand previous orders given servicemen requiring secrecy about these programs. This action should be accompanied by public announcements intended to inform former servicemembers that these secrecy orders have been countermanded, as recommended by the Institute of Medicine report.

Regarding adjudication of claims, the report provides conclusions regarding the causal relationships of exposure to the development of specific diseases. Also relevant to adjudication of claims submitted to VA for service-connected disability compensation, the report notes, "...many more military personnel were exposed to significant levels of mustard agents or Lewisite than is obvious from service records" and "there were often no records or documentation available of an individual's participation in the testing programs". Because individual military records may not record servicemember participation in these programs, the Department must provide VA the fullest possible accounting of these formerly secret tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite conducted by the U.S. during World War II and related production, transportation and storage of these chemical agents. This accounting should include, but not be limited to, the following:

The location of each U.S. chemical weapons research program which used human subjects, the purpose and nature of the research programs at each site, the identification of each military unit stationed at each chemical weapons research program location during the period of testing, the name, service number and military unit of each servicemember known to have participated as a human subject in a research program, the date on which research using human subjects, including preliminary research, was begun and was completed; and

The location of all facilities at which servicemembers participated in the production, transportation and/or storage of these chemical agents, the identification of each military unit stationed at each storage and/or production facility, the name, service number and military unit of each servicemember known to have participated in the production, transportation and/or storage of chemical agents, the date on which production and/or storage of chemical agents at each location was begun and terminated.

The recent Institute of Medicine report has provided valuable information on servicemember participation in secret U.S. chemical weapons programs during World War II which was not previously available to the public, this Committee or the Department of Veterans Affairs. Restrictions, however, on access to government-held information on these programs prevented access to all relevant information and consequently this report cannot be considered complete. According to the report, "...an

1/22/93


atmosphere of secrecy still exists to some extent regarding the WW II testing programs". As a result of this secrecy, "...the committee often had great difficulty obtaining information" and "The committee is certain that other relevant information exists that was never obtained." The unnecessary secrecy which still surrounds U.S. chemical weapons programs conducted during World War II must be removed if veterans who participated in these secret programs are to receive all benefits for which they are eligible. I strongly recommend the Department immediately take all necessary steps to remove the unnecessary restrictions on access to information regarding these programs and the servicemembers who participated in them.

In this regard, you may recall in early September, 1991, you and I, joined by Congressmen Stump and Dickinson, sent a letter to Secretary Cheney concerning "Department of Defense experimentation on military members with LSD, mustard gas, and other dangerous chemicals during the 1940s and 1950s" and requested a "report on the facts and circumstances surrounding these experiments...". The response we received from DOD did not disclose any of the information which has now been reported by the Institute of Medicine report. In addition to the circumstances associated with the Department's inadequate response to our earlier request being thoroughly examined, I am requesting the Department of Defense provide the Committee a report identifying all U.S. chemical weapons programs in which military personnel have participated as human experimental subjects in tests of exposure and all programs in which military personnel have participated in the production, transportation and/or storage of these chemical agents.

Finally, enclosed for your information is a copy of a letter dated January 5, 1993, from Acting Secretary Principi to Secretary Cheney regarding these issues. In his letter, Acting Secretary Principi has requested that the Department of Defense assist the Department of Veterans Affairs by identifying the servicemembers who participated in these exposure tests and other servicemembers who were otherwise exposed to these chemical agents and by providing relief from prior oaths of secrecy regarding these tests made by these veterans.

I look forward to receiving your reply and to being advised of the Department's plans to respond positively to my requests and the requests made by Acting Secretary Principi.

Sincerely,


G.V. (SONNY) MONTGOMERY
Chairman

GVM/pgp
Enclosure

FEDERAL REGISTER NOTICE

DEPARTMENT OF DEFENSE

Public Information Collection Requirement Submitted to OMB for Review

ACTION: NOTICE

The Department of Defense has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C Chapter 53).

TITLE: Chemical Weapons Exposure

TYPE OF REQUEST: New Collection.

Approval date requested: 30 days following publication in the Federal Register

NUMBER OF RESPONDENTS:

RESPONSES PER RESPONDENT:

ANNUAL RESPONSES:

AVERAGE BURDEN PER RESPONSE:

ANNUAL BURDEN HOURS:

NEEDS AND USES: The information collected, hereby, provides data needed to identify records which may support veterans' claims of participation in chemical weapons tests (World War II and after). Personnel affected are veterans (or their families) who allege involvement in testing. Data to be used to guide records searches and adjudicate claims.

AFFECTED PUBLIC: Individuals or households.

FREQUENCY: One time.

RESPONDENT'S OBLIGATION: Voluntary

OMB DESK OFFICER: Mr. Edward C. Springer

Written comments and recommendations on the proposed collection should be sent to Mr. Springer at the office of Management and Budget, Desk Officer for DoD, Room 10236, New Executive Office Building, Washington, DC 20503.

DOD CLEARANCE OFFICER: Mr. William P. Pearce

Written requests for copies of the information collection proposal should be sent to Mr. Pearce, WHS/DIOR, 1215 Jefferson Davis Highway, Suite 1204, Arlington, Virginia 22202-4302.

Patricia L. Toppings
Alternate OSD Federal Register
Liaison Officer
Department of Defense

SUPPORTING STATEMENT:

1. Need for Information Collection:

By Memorandum dtd March 9, 1993, DepSecDef directed Military Departments to cooperate in locating and providing specific information on DoD chemical weapons testing programs using human test subjects, as well as information on persons who may have been exposed to such agents during production, transportation, and storage activities. This information is being located and identified for declassification and so that individuals who may have been exposed can be identified, notified and compensated (if warranted), or provided treatment at Department of Veterans Affairs medical facilities. Since there was no central repository for these records, Military Departments were directed to review their current archived historical records for specific information related to human exposure. Information collected (RCS DD-FM&P(AR) 1919) formed the nucleus of a central DoD database containing test sites, records storage or archival sites, and many names of potentially exposed persons. Records collection thus began with documentation from W.W.II (1940's) time frame and is progressing to the present. Because records span a fifty year period, and many of the potentially exposed persons are elderly, expeditions identification and collection of these records has been critical. The requirement for this information collection was based on several congressional hearings; further hearings are anticipated. Additionally, the Department of Veterans Affairs requested that DoD provide information for claim adjudication. Such requests for information from the Department of Veterans Affairs have increased. Recently, the Congress has placed a requirement on DOD to issue a commendation to participants in W.W.II tests. This effort also supports the accurate identification of these personnel.

Collection efforts from service archives and the National Archives have not been totally successful. Because the tests were conducted 40 to 50 years ago, recovery of details that can be used for claim adjudication has been difficult. At times, useful information can be gained from veterans and their families. This collection will only be pursued with those veterans who contact us or Congress on this issue since they may have information that DoD can not locate any other way. Veterans often have commendatory orders or can relate details of their exposure which can then be reviewed by subject matter experts for clues on where records might be located. Participation will be completely voluntary and will not be required to receive appropriate benefits when applicable. In some cases, participation may help to locate information that will support claims for benefits.

In September, 1994, DoD inadvertently requested information from 72 individuals who wrote to Congressman Porter Goss on this issue [without the realization that an OMB license was required].

2. **Description and Practical Utility of the Information Collection Activity:**

Information is being used to assist Veterans Affairs and Department of Labor in validating claims for disability compensation. Failure to collect this information will delay the

processing of claims for exposure to toxic chemicals for a population which is elderly and may be experiencing rapidly deteriorating health.

3. **Minimize Burden:** There is no advanced technological method which may be used to collect information from W.W.II veterans.

4. **Non-Duplication:** This collection does not duplicate any other collection efforts. We will maintain close contact with the Department of Veterans Affairs and share data collected.

5. **Consideration of Alternatives:** Existing information in archives is scattered all across the United States in many different installations and in different formats. At times the retrieval requires a page by page reading or searching of hundreds of linear feet of records for a single case. Most of the data is not indexed or archived in any manner which supports rapid retrieval. In the case of routine training exercises in basic or unit training in W.W.II, there is no detailed description of activities which can be used to determine if a veteran was exposed or the extent of such exposure.

6. **Minimizing of Burden for Small Business:** This effort deals with veterans and former civilian employees of the U.S. Government. It does not affect small business.

7. **Consideration of Collection:** This information collection is reported one time.

8. **Paperwork Reduction Act Guidelines:** Collection will not be conducted in a manner inconsistent with the guidelines in 5 CFR 1320.6. It is anticipated that information will be solicited only once from a respondent.

9. **Consultants:** This collection effort has been discussed with members of the DoD Chemical Weapons Exposure Study Task Force and Congressman Goss.

10. **Confidentiality:** Respondents will be requested to provide service number and social security number for use by DoD and the Department of Veteran's Affairs in handling claims. The collection instrument will contain a Privacy Act Statement which will explain the use of the data and that failure to provide some information may interfere with processing their claim.

11. **Sensitive Questions:** No sensitive question will be asked beyond gender of the respondent. This information is needed to establish the identity of the respondents to match exactly service records.

12. **Cost to the government and to the Respondent:**

a. Cost to the Government:

(1) Cost to Review Form or Instrument:

Colonel, Staff Officer hourly rate of \$ 24.00 x 10 minutes = \$ 4.00

(2) Cost to Process Form or Instrument:

Cannot be estimated as it depends on what the information the form yields. Simple cases will result in a simple thank you letter being written. The time for a simple letter is about 1 hour of professional time (\$ 24.00). Extreme cases could result in expenditure of 2 -4 hours of professional staff time (\$48.00 to 96).

(3) Cost to Print Form or Instrument:

Printing:	\$ 0.10
Envelope	\$ 0.05
Postage	\$ 0.29
Return Postage	\$ 0.29
Total	\$ 0.73

Seventy-two mailed \$52.56

b. Cost to the respondent: The cost to the respondent will be approximately one half hour of time to fill out the survey. Postage will be supplied by the government.

13. **Estimation of Respondent Burden:** $72 \times 30 \text{ minutes} / 60 = 36 \text{ hours}$

14. **Reason for Change in Burden:** Increase due to establishment of a new collection.

15. **The results for collection of this information are not planned to be published for statistical use.**



TAB A12



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFORMATION SYSTEMS COMMAND
FORT HUACHUCA, ARIZONA 85613-5000



JUN 23 1993

ASOP (25)

MEMORANDUM THRU Director of Information Systems for Command, ^{29 Jun 93}
Control, Communications, and Computers,
ATTN: SAIS-IDP, 107 Army Pentagon,
Washington, DC 20310-0107

FOR Deputy Chief of Staff Operations and Plans, ATTN:
DAMO-FDB, 400 Army Pentagon, Washington, DC 20210-0400

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

1. References:

a. Memorandum, Deputy Secretary of Defense, 9 Mar 93, SAB
(encl 1).

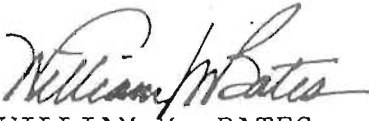
b. Memorandum, this headquarters, ASOP, 14 Jun 93, SAB
(encl 2).

2. Subject records search was conducted throughout Army activities. Consolidated report and copies of positive responses are contained in enclosure 3. All other Army activities reported negative results.

3. HQ, USAISC point of contact for this action is Monette Blanco, ASOP-MR, DSN 879-4749, commercial (602) 879-4749, e-mail address mblanco@huachuca-emhl.army.mil.

FOR THE COMMANDER:

3 Encls
as


WILLIAM M. BATES
COL, GS
DCSOPS

A12

- (1) Number of personnel required.

YPG feels that based on the limited number of records found in their search it is expected that resource requirements to prepare a data base would be minimal.

DPG - 2.5 people.

- (2) Cost salary.

DPG - \$65,000.

- (3) Cost if contracted out.

DPG - Unknown at this time.

- (4) Estimated time to complete.

DPG - One person 2 years, two people 1 year using approximately 5,000 man-hours.

- (5) Workload impact on organization.

DPG - Devastating.

c. Point of contact at this headquarters is Mrs. Barbara Hornberger, AMSTE-CI-A, amstecia@apg-9.apg.army.mil, DSN 298-1051.

3. The point of contact for this action is Mrs. Williams, DSN 284-8965, e-mail fwilliam@alexandria-emh1.army.mil.

4. AMC -- America's Arsenal for the Brave.

FOR THE COMMANDER:

Encl
wd

//s//
TOMMY T. OSBORNE
Colonel, GS
Corporate Information Officer

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM-(OT)-59)

g. The POC for this office is Mrs. Diane L. Hawver, AMSCB-CIR, DSN 584-2295, and Mr. Steve Lawhorn, AMSCB-CIM, DSN 584-2938.

(3) TECOM -- Requested information for the U.S. Army Test and Evaluation Command (TECOM) is as follows:

a. Number of records located by media:

(1) Paper records.

U.S. Army Yuma Proving Ground (YPG), Yuma,
Arizona - 11 paper records.

U.S. Army Dugway Proving Ground (DPG), Dugway,
Utah - approximately 6,000 paper records.

This is an estimated number of records derived from scanning 750 boxes (1 sq. ft. per box). This effort took six people, 8 solid 10-hour days. To count individual name and social effort with the same number of people. security numbers as a record would entail at least a 3-month effort with the same number of people.

(2) Index cards, punch cards, aperture cards.

DPG - 1500 data cards.

(3) Microforms or other machine-readable to include dosimetry badges.

Negative.

(4) Electronic records.

DPG - 2000. (Presently a data base is used by the Safety Office to track individuals working with chemicals.)

(5) Other.

YPG - Possibly one film based on filing subject.

b. Estimated cost to prepare a data base covering all the pertinent records at each location:

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM-(OT)-59)

Note: A large portion of these records are maintained at Rocky Mountain Arsenal.

(2) The following estimate for cost to prepare requested database follows if contracted out:

a. Based upon other work that we have done, we have based our estimates on individual documents or file cabinet drawers of documents. In this case we have assumed a file cabinet drawer holds 2 linear feet of paper. A reel of microfiche might correspond to a file cabinet drawer of material.

b. There are two levels of processing that we have identified. The first is simply to index the material. That covers simply identifying the title and location of the document with only minimal information about its contents. That effort is estimated at about \$600/drawer. The second level of effort is to review and index the document with key words and a short abstract. The cost is significantly higher, because technically qualified people must read and catalogue the document. That cost is estimated at \$2500 per drawer.

c. The electronic files (to include the optical data) could be simply catalogued by file name, etc. with minimal reading of the actual contents for the purposes of this exercise. A fixed cost of \$30K was included for that purpose.

d. Using the cost for only the most minimal identification and cataloguing of the above materials (the \$600/drawer estimate), the following cost estimate is provided:

8465 linear feet = 4235.5 drawers @ \$600 =	\$2.54M
6776 reels of microfiche @ \$600 =	\$4.07M
29 linear feet of index cards (\$500K)=	\$0.50M
288 gig electronic and other (\$30K) =	\$0.03M

Total	\$7.14M

e. The time estimate would be fairly long - 12 to 18 months assuming that the decision was made to do the job in its entirety so the contractor could properly allocate/realign his staff.

f. Obviously, such an estimate is very shaky, because the contents of the different collections can vary so greatly. This is the best that I can do without looking in detail at the various collections. And I am afraid that the more we look, the higher the estimate would go.

type 61

(Message # 61: 7962 bytes, New)

From: Williams Frances.AMCIO%aelan@alexandria-emh4.army.mil

Date: Thu, 17 Jun 93 15:17:00 EDT

To: mblanco@huachuca-emh1.army.mil

Cc: Williams Frances.AMCIO%aelan@alexandria-emh4.army.mil

Subject: Weapons Research Programs Using Human Test Subjects

Return-Receipt-To:

Williams Frances.AMCIO%aelan@alexandria-emh4.army.mil

X-Attach: K:\data\wrp-rpl.doc

Comment: The attached MS-DOS/Macintosh files have been appended to the end of this message.

----- WRP-RPL.DOC -----

The following text attachment was appended to the message below.

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM-(OT)-59)

17 Jun 1993

Cdr, U.S. Army Materiel Command, Alexandria, VA 22333-0001

FOR Cdr, U.S. Army Information Systems Command, ATTN: ASOP-MR
(Mrs. Monette Blanco), Fort Huachuca, AZ 85613-5000

1. Headquarters, U. S. Army Materiel Command has located some Weapon Research Programs Using Human Test Subjects records from Chemical and Biological Defense Agency (CBDA) and Army Test and Evaluation Command (TECOM).

2. Following information received from Chemical and Biological Defense Agency (CBDA) and Army Test and Evaluation Command (TECOM) are as follows:

(1) CBDA -- The U.S. Army Chemical and Biological Defense Agency has conducted a records search to identify records relative to chemical and biological testing as prescribed in previous correspondence. The results are as follows:

Paper	-8465 linear feet
Index cards, etc.	-29 linear feet
Microforms, etc.	-6776 reels, 200 FHS tapes
Electronic	-288 gigabytes
Other	-15 linear feet of equipment, plus 4 - 12" optical disk in CLV format

Weapons Research Programs Using Human Test Subjects
(RCS: CSIM- (OT) -59)

Location	Records	Cost of conversion
U.S. Army Chemical and Biological Defense Agency, Aberdeen PG, MD	8465 linear feet paper 29 linear feet index cards 6776 reels microforms 200 FHS tapes	\$2.54M .50M 4.07M
POC: Ms Hawver, AMSCB-CIR, DSN 584-2295	288 gigabytes electronic 4 12" optical disc	.03M
	EST COST TO CONVERT	\$7.14M
Note: Some of these records are located at Rocky Mountain Arsenal.		
Army Test and Evaluation Command (TECOM), records located at Yuma Proving Grnds Dugway Proving Grnds	5 linear feet paper 1 linear feet data cards 1 data base containing 2000 records 1 film	
POC: Ms. Hornberger AMSTE-CI-A, DSN 298-1051	EST COST TO CONVERT	\$65 K
U.S. Army Medical Research and Development Cmd, Ft Detrick, Frederick, MD.	100 linear feet paper 7000 sets of microfiche 200 minutes of film media	
POC: LTC Jeff Davies, SGS, DSN: 343-7111	EST COST TO CONVERT (CONTRACT OUT - NO IN HOUSE CAPABILITY)	\$750K
U.S. Army Training and Doctrine Command Chemical Center and Chemical Corps Museum, Ft McClellan, AL.	735 linear feet paper (plus various books, studies, manuals, etc)	
POC: Mr. Adkins HQ TRADOC, ATIM-SR, DSN: 680-4414	EST COST TO CONVERT	\$65K
U.S. Army Intelligence and Security Command, Ft. Belvoir VA. POC Ms. Stanton DSN 235-1206.	1 paper record 1 microfiche record 106 electronic records	
	EST COST TO CONVERT	\$900.00

4 encls
1-4 Positive responses to records search



DEPARTMENT OF THE ARMY
 U.S. ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND
 FORT DETRICK, FREDERICK, MD 21702-5012



REPLY TO
 ATTENTION OF:

SGRD-ZA (25-1i)

03 JUN 1993

MEMORANDUM THRU

10 JUN

Chief of Staff, Army, Washington, DC 20310

David E. Suttle, M.D.
 Colonel, GS

~~Assistant Secretary of the Army (M&RA), Washington, DC 20310~~

Assistant Deputy for Health Po

FOR Acting Assistant Secretary of Defense (Health Affairs),
 Washington, DC 20301-1200

SUBJECT: Chemical/Biological Weapons Research Programs Using
 Human Test Subjects

1. Reference memorandum, Administrative Assistant to the Secretary of the Army, 21 May 1993, SAB.
2. In accordance with paragraph 3 of reference memorandum, the following is submitted:
 - a. Number of records located by media:
 - (1) Paper Records - 100 linear feet (50 boxes in Records Holding containers).
 - (2) Index cards, punch cards, aperture cards - None.
 - (3) Microforms or machine-readable, including dosimetry badges - Approximately 7000 sets of medical records on microfiche.
 - (4) Electronic records - None.
 - (5) Other - Approximately 200 minutes of film media.
 - b. Cost to prepare a database:
 - (1) Number of personnel required - Eleven manyears.
 - (2) Cost salary - See Item (5) below.
 - (3) Cost if contracted out - \$700K (GOCO) (need to consider COR cost of approximately \$50K).
 - (4) Estimated time-to complete - Three years.

MRA
 7/6900


SGRD-ZA

SUBJECT: Chemical/Biological Weapons Research Programs Using
Human Test Subjects

(5) Workload impact on organization - This work cannot be conducted by in-house personnel. As a result of Program Budget Decision 755, this Command's entire infrastructure effort has been significantly reduced towards the end of increasing contracting out (extramural) effort. In addition, the directed infrastructure reductions, the concomitant personnel reductions have forced degradation in mission accomplishment. Conduct of the work necessary to accomplish the establishment of a complete database of files holdings must, by necessity, be a contract effort.

3. These estimates are based on a milestone 0 startpoint on existing records with the addition of a thorough search for information which would include review of the volunteer's medical records that are on microfiche. Additionally, it would include a complete scrub of the aforementioned 50 boxes of records holding containers. Further, these estimates are based on historical workload data of a similar effort a decade ago.

4. Point of contact for this action is LTC Jeff Davies, Secretary of the General Staff, who can be reached at 301-619-7111 or DSN 343-7111.


RICHARD T. TRAVIS
Major General, MC
Commanding

CF:
DASG-ZXA
SGPS-AOR

Comments: Converted from PROFS to RFC822 format by PUMP V2.2X
Date: Wed, 16 Jun 93 11:30:13 EDT
From: WARREN ATKINS
<ATKINSW@MONROE-EMH1.ARMY.MIL>
Subject: Records Search (CB Warfare)
To:
"ASOP-MR HQ USAISC"
<mblanco@huachuca-emh1.army.mil>,
<\$DOC@MONROE-EMH1.ARMY.MIL>

ATIM-SR (ASOP-MR\11 May 93) (25-1i) 1st End
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59

Commander, TRADOC, ATTN: ATIN-SR, Fort Monroe, VA 23651-5000
16 Jun 93

FOR Commander, U.S. Army Information System Command, ATTN:
ASOP-MR, Fort Huachuca, AZ 85613-5000

1. All TRADOC installations and activities have been canvassed for records relative to use of human test subjects in weapons research programs. Only the Chemical Center reported holdings which may support action planning of the DA staff. The holdings at the Chemical Center and the Chemical Corps Museum at Fort McClellan, AL, are paper documents and identified at enclosures 3 and 4.

2. Points of contact are--

a. HQ, TRADOC; Warren Atkins, DSN 680-2417; FAX DSN 680-2666; E-Mail .ddn ATKINSW@MONROE-EMH1.ARMY.MIL.

b. Chemical Center; Ms. Ann Koonce, DSN 865-6794 (Records Manager); Mr. Pastorett, DSN 865-4414 (DTD, Chemical School).

FOR THE COMMANDER:

4 Encls
1-2. nc
Added 2 encls
3-4. as

/Signed MARKEY, ADCSIM/
for/DAVID G. FITZ-ENZ
Colonel, GS
Deputy Chief of Staff for
Information Management

ENCL 3

CHEMICAL CENTER
Fort McClellan, AL 36205

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59

1. Fisher Library has two document collections, one - classified and one - unclassified. Each collection has some uncataloged material, which would have to be examined closely. Those items which have been cataloged will be much quicker to search.

2. Unclassified documents. Corps of Engineers, Fort Belvoir, had two contractors (American University) search for World War I documents. They found about 700 incidents of human exposure to chemical agents as a part of training or testing in about 100 linear feet of documents. It took two people about two months to do the search and establish a data base of their findings. There is an effort to get the COE office in St Louis to fund searching the rest of the collection to do the same analysis. They estimate 12-15 months (one person) to complete the search. (Approx 213 lin ft of records).

3. Classified documents. Battelle Institute sent a representative here to look at both document collections from the point of searching biological warfare and had six representatives from BDM and SAIC to look at some documents, which took about a week, and they will be back for another week. Based on these samples, it would take two people (one SME and one data base operator) a year or more to do the search requested. (Approx 522 lin ft of records).

4. Point of contact is Mr. Pastorett, Information Services Center, DSN 865-4414.

ENCL 4

CHEMICAL CORPS MUSEUM
Fort McClellan, AL 36205

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59

The Chemical Corps Museum records which relate to exposure or potential exposure to humans in the research, development, test, and evaluation (RDTE), and production, transportation, storage, training, or disposal of such material are--

- a. Armed Forces Doctrine for Chemical and Biological Defense (FM 101-40).
- b. Chemical Agents in War (Infantry School Pamphlet).
- c. Poison on the Wind (Copy of Book).
- d. Chemical Warfare and Aviation by Army-Navy Courier.
- e. Enemy Tactics in Chemical Warfare, Military Intelligence Division, War Department.
- f. Gas Attacks, Ammunitions Required to Cause Fatal Effects.
- g. Principles Governing the Use of Chemical Agents.
- h. Pugwash Conference.
- i. Research in CAB, House of Representatives Report #815.
- j. A Historical Survey on U.S. Government Policies on Chemical and Biological Warfare. Project PUSSARCE.
- k. International Response to Future Use of Non lethal Munitions, Problems and Prospects.
- l. Hazardous Commercial Chemical Data Handbook (BZI-160), U.S. Army Missile and Munitions Center and School, Redstone Arsenal.
- m. Characteristics of Biological Agents, PAM 51-EA021.
- n. Mabel Nein Vs U.S. Government, GEN Greedy's Papers.
- o. Biological Laboratories, Camp Detrick, Functional Organizational Manual.
- p. Capabilities of Biological Warfare, Memo to the Joint Chief of Staff.
- q. Biological Warfare, An Annotated Bibliography.

r. Technical Study #158, Appendix I.

s. U.S. Army Activity in the U.S. Biological Warfare Program, Volumes I and II.

t. Herbicides, A Handout, FB 600-640-1, Chemical Center and School.

u. Chemical Corps, Medical Labs, Special Report #25.

v. 35 Field Manual and 212 Technical Manuals on Chemical Equipment and Training

IAIM-RP-R (ASOP/11 May 92) (25-1i) 1st End Ms. Stanton/
las/DSN 235-1206
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

Commander, U.S. Army Intelligence and Security Command,
ATTN: IAIM-RP-R, Fort Belvoir, Virginia 22060-5370 11 JUN 1993

FOR Commander, U.S. Army Information Systems Command,
ATTN: ASOP-MR, Fort Huachuca, Arizona 85613-5000

1. A comprehensive records search was conducted throughout the Intelligence and Security Command for records pertaining to the subject request. Records relative to chemical/biological use were located and the following records holdings information is submitted:

a. Number of records located by media:

- (1) Paper records - 1.
- (2) Index cards, punch cards, aperture cards - 0.
- (3) Microforms or other machine-readable, include dosimetry badges - 1.
- (4) Electronic records - 106.
- (5) Other - 0.

b. Estimated cost to prepare a database covering all the pertinent records at each location.

- (1) Number of personnel required - 3.
- (2) Cost salary - \$900.00
- (3) Cost if contracted out - N/A, no need to contract out.
- (4) Estimated time to complete - four (4) days.
- (5) Workload impact on organization - minimal.

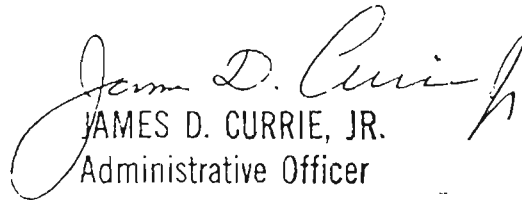
IAIM-RP-R

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

2. The INSCOM point of contact for this action is
Lorraine Stanton, DSN 235-1206 or E-mail address
STANTONL%BEL1@LEAV-EMH.ARMY.MIL.

FOR THE COMMANDER:

2 Encls
wd all encls


JAMES D. CURRIE, JR.
Administrative Officer

07/07/93

TO: Marty

RE: Estimated reimbursement for NPRC services

The estimated reimbursable rates for NPRC services are as follows:

\$2.65 per record search

\$5.68 per case (includes search, records screening,
and data abstraction)

B.J. DAVIS
Management Analyst

Phone: 314-538-4174

B



TAB A13

ORIGINAL DRAFT NOT FINAL PRODUCT

OASD (P&R)

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
PERSONNEL AND READINESS

DEPARTMENT OF DEFENSE
CHEMICAL WEAPONS EXPOSURE STUDY UPDATE

JULY 1993

Prepared for:
Staff & Members
House Committee on Veterans' Affairs

Prepared by:
Norma J. St. Claire
Director, Information Resources Management
Office of the Assistant Secretary of Defense Personnel & Readiness
(703)696-8710

A13

OASD (P&R)

DEPARTMENT OF DEFENSE
CHEMICAL WEAPONS EXPOSURE STUDY
UPDATE FOR JULY 1993

SECTION ONE

CHEMICAL WEAPONS SITE LOCATION DATABASE

SECTION TWO

CHEMICAL WEAPONS TEST DOCUMENT REPOSITORIES

SECTION THREE

CHEMICAL WEAPONS EXPOSURE PERSONNEL DATABASE

SECTION FOUR

CHEMICAL WEAPONS EXPOSURE STUDY
MAJOR ISSUES

SECTION ONE

CHEMICAL WEAPONS SITE LOCATION DATABASE

CHEMICAL WEAPONS EXPOSURE SITE DATABASE

The attached Site Location Database Summary was compiled by the Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC). CBIAC is under the direction of Defense Technical Information Center (DTIC).

The Database Summary includes 117 entries, some of which are duplicate due to names changes or reorganizations (example: Camp Detrick is listed, as is the current organization Fort Detrick).

The sites where most of the testing using human subjects was conducted, and where most of the records originated or are still stored are:

Edgewood Arsenal, MD

Dugway Proving Ground, UT

Naval Research Laboratory, MD

Fort Detrick, MD

Fort McClellan, AL

Sites where field testing was conducted, or where documented incidents of exposure have been found are listed below. The sites with an asterisk denote sites that are no longer in use:

*Bushnell Field, FL

*San Jose Island, Panama (*also listed as Fort Clayton*)

*Camp Sibert, AL

Huntsville Arsenal, AL

*Horn Island Installation, MS

Tooele Army Depot, UT

Great Lakes Naval Training Center, IL

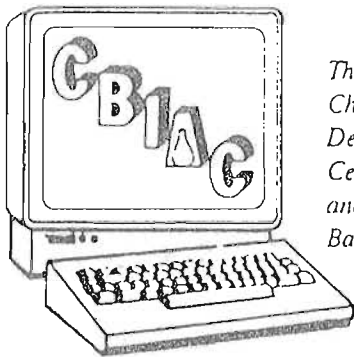
REPORT

CW

SITE LOCATION

DATABASE

SUMMARY



*The Chemical Warfare/
Chemical and Biological
Defense Information Analysis
Center is a DoD information
analysis center operated by
Battelle Memorial Institute*

COLTS NECK NAVAL PIER	NAVY	EARLE	NJ	UNITED STATES	TRANSPORT		ENJ
CRANE ARMY AMMUNITION ACTIVITY	ARMY		IA	UNITED STATES	TRANSPORT		CAA
CRANE NAVAL AMMUNITION DEPOT	NAVY	CRANE	IN	UNITED STATES	TRANSPORT		CMAD
DESERET CHEMICAL WARFARE DEPOT			UT	UNITED STATES	TRANSPORT, STORAGE		DESERET
DOW CHEMICAL COMPANY	INDUSTRIAL	PITTSBURG	CA	UNITED STATES	TRANSPORT		DOV
DUGWAY PROVING GROUND	ARMY		UT	UNITED STATES	TRANSPORT, ROT&E	H	DPG
EDGEWOOD ARSENAL	ARMY	EDGEWOOD	MD	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION, ROT&E	H	EA
EL TORO MARINE CORPS AIR STATION	MARINE CORPS		CA	UNITED STATES	TRANSPORT		TORO
ELMBLORF AIR FORCE BASE	AIR FORCE		AK	UNITED STATES	TRANSPORT		ELW
ENVIRONMENTAL TECHNOLOGIES GROUP, INC.	OTHER	BALTIMORE	MD	UNITED STATES	ROT&E		
FALLON NAVAL AIR STATION	NAVY		NY	UNITED STATES	TRANSPORT		FALL
FIRELANDS PLANT	ARMY	FOSTORIA	OH	UNITED STATES	PRODUCTION		
FORT BRAGG	ARMY		NC	UNITED STATES	TRANSPORT		BRAG
FORT CHURCHILL		RIVERS		MANITOBA CANADA	TRANSPORT		FCA
FORT CLAYTON	ARMY			PANAMA CANAL ZONE	TRANSPORT, ROT&E	TROPICAL TEST CENTER H	CZ
FORT DETRICK	ARMY		MD	UNITED STATES	ROT&E, SPECIAL PROJECTS	FORMERLY KNOWN AS CAMP DETRICK H	CAMP DETRICK
FORT GREELY	ARMY		AK	UNITED STATES	TRANSPORT, ROT&E	ARCTIC TEST CENTER H	GAK
FORT WCCLELLAN	ARMY	WADSWORTH	AL	UNITED STATES	TRANSPORT, STORAGE, TRAINING	FORMERLY KNOWN AS CAMP STEVENSON H	FORT, EAST SIBERT
FORT RICHARDSON	ARMY		AK	UNITED STATES	TRANSPORT		FTR

FORT STEWART	ARMY		GA	UNITED STATES	TRANSPORT		FTST
GEOMET TECHNOLOGIES, INC.	OTHER	GAITHERSBURG	MD	UNITED STATES	ROT&E		
GERMANY--VARIOUS SITES				GERMANY	TRANSPORT, STORAGE	RETROGRADE PROGRAM	
GRANHAM ARMY AIR FIELD	ARMY	FORT KNOX	KY	UNITED STATES	TRANSPORT		GAAF
GRANITE PEAK INSTALLATION		TOOELE	UT	UNITED STATES	SPECIAL PROJECTS		
GREAT LAKES NAVAL TRAINING CENTER	NAVY		IL	UNITED STATES	TRAINING, ROT&E	H	
GULF CHEMICAL WARFARE DEPOT		HUNTSVILLE	AL	UNITED STATES	TRANSPORT, STORAGE		GCWD
HAWTHORNE ARMY AMMUNITION PLANT	ARMY		NV	UNITED STATES	TRANSPORT, STORAGE		HAAP
HEARN ISLAND INSTALLATION	ARMY	PASCAGOULA	MS	UNITED STATES	ROT&E, SPECIAL PROJECTS, PRODUCTION, STORAGE	H	
HUNTSVILLE ARSENAL	ARMY	HUNTSVILLE	AL	UNITED STATES	PRODUCTION, STORAGE	H	
IIT RESEARCH INSTITUTE	OTHER	CHICAGO	IL	UNITED STATES	ROT&E		
JOHNSTON ATOLL				UNITED STATES	TRANSPORT, STORAGE, DISPOSAL		JA
KANAWHA PLANT	ARMY	SOUTH CHARLESTON	WV	UNITED STATES	PRODUCTION		
KEYPORT NAVAL TORPEDO STATION	NAVY		WA	UNITED STATES	TRANSPORT		KEY
LETTERSLEIGH ORDNANCE DEPOT	ARMY		PA	UNITED STATES	TRANSPORT		LOD
LEXINGTON-BLUE GRASS DEPOT ACTIVITY	ARMY	RICHMOND	KY	UNITED STATES	TRANSPORT, STORAGE		LBDA
LITTLE ROCK AIR FORCE BASE	AIR FORCE	LITTLE ROCK	AR	UNITED STATES	TRANSPORT		LRARB
LOS ALAMITOS NAVAL AIR STATION	NAVY	LOS ALAMITOS	CA	UNITED STATES	TRANSPORT		LALW
LUALUAEI NAVAL MAGAZINE	NAVY		HI	UNITED STATES	TRANSPORT		LLL
MACDILL ARMY AIR BASE	ARMY	TAMPA	FL	UNITED STATES	TRANSPORT		MAAB

MARSHALL PLANT		NEW MARTINSVILLE	WY	UNITED STATES	PRODUCTION	
WALCHESTER ARMY AMMUNITION PLANT	ARMY		OK	UNITED STATES	TRANSPORT	WALA
WIDWEST RESEARCH INSTITUTE	OTHER	KANSAS CITY	MO	UNITED STATES	RD&E	
WISA RESEARCH CORPORATION	OTHER	EVANS CITY	PA	UNITED STATES	RD&E	
MUSCLE SHOALS PHOSPHATE DEVELOPMENT WORKS	ARMY	MUSCLE SHOALS	AL	UNITED STATES	PRODUCTION	WSPDW
KAYAJO ARMY DEPOT	ARMY		AZ	UNITED STATES	TRANSPORT	MAZ
NAVAL MAGAZINE	NAVY			GUAM	TRANSPORT	NAVG
NAVAL WIRE DEPOT	NAVY	YORKTOWN	VA	UNITED STATES	TRANSPORT	WWD
NAVAL RESEARCH LABORATORIES	NAVY	WASHINGTON	DC	UNITED STATES	RD&E	H NRL
NAVAL WEAPONS STATION	NAVY	CONCORD	CA	UNITED STATES	TRANSPORT	CON
NAVY AMMUNITION DEPOT-EARLE	NAVY	ELIZABETH	NJ	UNITED STATES	TRANSPORT	POINT OF DEPARTURE FOR SEA DISPOSAL OPERATION CHASE
NEW ORLEANS PORT OF ENTRY		BRAITHWAITE	LA	UNITED STATES	TRANSPORT	NOPE
NEW RIVER MARINE CORPS AIR FIELD	MARINE CORPS		NC	UNITED STATES	TRANSPORT	NRAF
NEWPORT ARMY AMMUNITION PLANT	ARMY	NEWPORT	IN	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION	HAAP
PENDLETON MUNICIPAL AIRPORT	OTHER		WA	UNITED STATES	TRANSPORT	PNMA
PHILLIPS ARMY AIR FIELD	ARMY	ABERDEEN PROVING GROUND	MD	UNITED STATES	TRANSPORT	PAAF
PINE BLUFF ARSENAL	ARMY	PINE BLUFF	AR	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION	PBA
POPE AIR FORCE BASE	AIR FORCE	POPE	NC	UNITED STATES	TRANSPORT	PAFB
PUEBLO DEPOT ACTIVITY		PUEBLO	CO	UNITED STATES	TRANSPORT, STORAGE	PUDA
QUANTICO MARINE CORPS AIR FIELD	MARINE CORPS	QUANTICO	VA	UNITED STATES	TRANSPORT	QUAN

RAHWAY ARSENAL		RAHWAY	NJ	UNITED STATES	TRANSPORT	RAH
RICKERS ISLAND	OTHER		NY		ROT&E	
ROCKY MOUNTAIN ARSENAL	DENVER		CO	UNITED STATES	TRANSPORT, DISPOSAL, PRODUCTION	RMA
SAN BERNARDINO LOADING PLANT		SAN BERNARDINO	CA	UNITED STATES	PRODUCTION	
SAN JACINTO ORDNANCE DEPOT		HOUSTON	TX	UNITED STATES	TRANSPORT	SJOD
SAN JOSE ISLAND				PANAMA CANAL ZONE	ROT&E	
SAVANNA ORDNANCE DEPOT		SAVANNA	IL	UNITED STATES	TRANSPORT	SVOD
SEAL BEACH NAVAL WEAPONS STATION	NAVY		CA	UNITED STATES	TRANSPORT	SBCA
SMALL BOAT WET STORAGE BASIN	NAVY	CHARLESTON	SC	UNITED STATES	TRANSPORT	SBSB
SOUTHERN RESEARCH INSTITUTE	OTHER	BIRMINGHAM	AL	UNITED STATES	ROT&E	
SRI INTERNATIONAL	OTHER	WENLO PARK	CA	UNITED STATES	ROT&E	
ST. LOUIS PLANT	ARMY	EAST ST. LOUIS	IL	UNITED STATES	PRODUCTION	
SUFFIELD TEST CENTER		RALSTON		ALBERTA CANADA	TRANSPORT, STORAGE, ROT&E	SUF
SUNNY POINT NAVAL PIER	NAVY	SUNNY POINT	NC	UNITED STATES	TRANSPORT	SUN
THEODORE NAVAL MAGAZINE	NAVY	MOBILE	AL	UNITED STATES	TRANSPORT	TMM
TOOELE ARMY DEPOT	ARMY	TOOELE	UT	UNITED STATES	TRANSPORT, STORAGE, DISPOSAL	TEAD
TRAVIS AIR FORCE BASE	AIR FORCE		CA	UNITED STATES	TRANSPORT	TAFB
TRUETECH, INC.	OTHER	RIVERHEAD	NY	UNITED STATES	ROT&E	
TULALIP BACKUP STORAGE DEPOT		TULALIP	WA	UNITED STATES	TRANSPORT	TUL
TURLOCK PLANT		TURLOCK	CA	UNITED STATES	PRODUCTION	

UMATILLA DEPOT ACTIVITY		HERMISTON	OR	UNITED STATES	TRANSPORT, STORAGE	UMDA
UNIVERSITY OF CHICAGO	UNIVERSITY	CHICAGO	IL	UNITED STATES	RDY&E	
UPPER KIPAPA MILITARY RESERVATION			HI	UNITED STATES	TRANSPORT	UKLR
VIGO PLANT	ARMY	TERRE HAUTE	IN	UNITED STATES	SPECIAL PROJECTS	H
WAINWRIGHT ARMY AIR FIELD	ARMY	FORT WAINWRIGHT	AK	UNITED STATES	TRANSPORT	WAAF
WHIDBEY ISLAND NAVAL AIR STATION	NAVY		WA	UNITED STATES	TRANSPORT	SHID
WRIGHT ARMY AIR FIELD	ARMY		GA	UNITED STATES	TRANSPORT	WRAF
YUMA TEST STATION		YUMA	AZ	UNITED STATES	TRANSPORT	YTS

SECTION TWO
CHEMICAL WEAPONS TEST
DOCUMENT REPOSITORIES

OASD (P&R)

CHEMICAL WEAPONS TEST DOCUMENT REPOSITORIES

*Washington National Records Center, Suitland, MD

*National Personnel Records Center, St. Louis, MO

*Dugway Proving Ground Technical Library, Dugway, UT

Aberdeen Proving Ground/Edgewood Arsenal, Edgewood, MD

*Fisher Library, Army Chemical Weapons School
Ft. McClellan, AL

*Chemical/Biological Information Analysis Center (CBIAC)
Edgewood, MD

Defense Technical Information Center, Alexandria, VA

*Naval Research Laboratory, Anacostia, MD

University of Chicago Library, Chicago, IL

*Denotes facilities visited by OASD (P&R) staff to review records.

OASD (P&R)

WASHINGTON NATIONAL RECORDS CENTER, SUITLAND, MD

13 BOXES OF ARMY SURGEON GENERAL FILES

OVER 1000 LINEAR FEET OF ARMY CHEMICAL CORPS RECORDS

ARCHIVIST LOCATED AND PROVIDED 690 MEDICAL CARDS FROM
MUSTARD GAS EXPERIMENTS CARRIED OUT AT ABERDEEN
PROVING GROUND, MD; BUSHNELL FIELD, FL; DUGWAY PROVING
GROUND, UT

A LIST OF OFFICERS, AND PICTORIAL HISTORY OF THE SAN JOSE
PROJECT, PANAMA, WAS ALSO LOCATED.

*(This project included testing of mustard gas
penetration of protective clothing, and through jungle
canopy/foilage.)*

Attachment A Sample of Medical Treatment Cards

Attachment B *List of Officer Assigned to San Jose Project

Dugway, VT 8/44

1. REGIMENT **VOLUNTEER, MEDICAL DIVISION, CC, CWS**
 2. LAST NAME
 3. FIRST NAME AND MIDDLE INITIAL
 4. A. S. NO. **14006252**
 5. GRADE **Col.** 6. COMPANY **SCU**
 7. REGIMENT AND ARM OR SERVICE
 8. AGE
 9. RACE **White** 10. GRADE **10** 11. SERVICE **088** 12. DATE OF ENTRY **24**
 13. SOURCE OF INFORMATION **49-201**
 14. CAUSE OF ADMISSION

Date of Arrival *Dugway*: 5 Aug. 1944
 Date of Leaving *Dugway*: 12 Sept. 1944
 This man volunteered and participated in tests conducted by the Medical Division, CC-CWS at Dugway Proving Ground, Tooele, Utah, 5 Aug. - 31 Aug. 1944.
 The details of these tests are classified information, filed in the Office of the Chief, Medical Division, CC-CWS.

15. LINE OF DUTY
 16. HAZARD CODE **NOT REQUIRED**
 17. ADDITIONAL DIAGNOSES, OPERATIONS
 No injury and no illness was produced, discharged no disease.
 18. PLACE OF TREATMENT
 19. DESCRIPTION
 20. DATE OF DISPOSITION
 21. NAME OF HOSPITAL
 22. SORT WITH REPORT OF I. & O. FOR MONTH OF
 23. *[Signature]*
 Medical Corps, U. S. Army.

Edgewood

1. REGIMENT **Volunteer, Med. Div., CC, CWS**
 2. LAST NAME
 3. FIRST NAME AND MIDDLE INITIAL
 4. A. S. NO. **348293**
 5. GRADE **Pvt. D** 6. COMPANY **54M. T. B. Co. Art.** 7. REGIMENT AND ARM OR SERVICE
 8. AGE **25**
 9. RACE **W** 10. GRADE **Gen.** 11. SERVICE
 12. DATE OF ADMISSION
 13. SOURCE OF ADMISSION
 14. CAUSE OF ADMISSION

Arrived **BA, Md.** 24 Aug.

Departed **BA, Md.**

This man volunteered and participated in tests conducted by the Medical Division, CC-CWS at Edgewood Arsenal.

L.C. **YES**

15. LINE OF DUTY
 16. HAZARD CODE **NOT REQUIRED**
 17. ADDITIONAL DIAGNOSES, OPERATIONS
 Exposed to vesicant agent in the man chamber while wearing permeable protective clothing, & gas masks.
 Developed slight erythema of back & chest.
 18. PLACE OF TREATMENT
 19. DESCRIPTION
 20. DATE OF DISPOSITION
 21. NAME OF HOSPITAL

[Signature]
 Medical Corps, U. S. Army.



ROSTER OF OFFICERS ATTACHED AND ASSIGNED TO CGR

NAME	RANK	SERIAL NO	ARRIVED	TEMPORARY DUTY		ASSIGNED	
				FROM	TO	FROM	TO
Abbott, Frederic E.	Capt	0-919901	6-15-44	6-15-44	6-23-44		
Abrams, Frank	Capt	0-568805	3-10-44	3-10-44	3-25-44		
Alampi, Daniel A.	2d Lt	0-444850	3-22-44	3-22-44	11-10-44		
Alessi, Carlos D.	Capt	0-1703609	3-23-44	3-23-44	12-5-44	12-5-44	
Alloways, Richard K.	1st Lt	0-856217	4-28-44	4-28-44	6-9-44		
Ansley, Oscar L.	1st Lt	0-1036539	6-12-45	6-14-45			
Arnold, John D.	2d Lt	0-2043715	6-6-44	6-6-44	7-27-44		
Baum, Bernard	1st Lt	0-1036900	9-12-44	9-12-44	9-20-44		
Beals, Kenneth H.	Capt	0-568702	3-22-44	3-22-44	11-9-44		
Beckwith, Julian E.	Capt	0-568702	3-10-45	3-10-45			
Bedford, John R.	1st Lt	0-1037422	1-17-44	1-17-44	1-12-45		
Beech, Reginald	Capt	0-490124	1-17-44	1-17-44	11-1-44	11-1-44	
Beers, William H.	1st Lt	0-1037347	4-20-44	4-20-44	7-23-44		
Bennett, Marcus H.	Capt	0-568715	3-12-44	3-12-44	11-2-44	11-1-44	
Bentley, Arthur H.	1st Lt	0-1036212	12-22-44			12-22-44	
Brainard, Donald S.	1st Lt	0-1036214	1-17-44	1-17-44	11-1-44	11-1-44	
Braun, Leon	1st Lt	0-1037407	9-12-44	9-12-44	10-7-44		
Brown, Joseph F.	1st Lt	0-1725400	4-21-45	4-21-45			
Brown, Walter L.	1st Lt	0-1036801	9-11-44	9-11-44	10-31-44		
Buchanan, James B.	Lt Col	0-146715	5-21-44	5-21-44	11-10-44		
Bullene, Elybert F.	B Gen	0-2702	3-24-44	3-24-44	11-24-44	11-24-44	6-20-45
Cabana, Victor L.	1st Lt						
Cabasa, Jaime L.	1st Lt	0-1036544	3-23-44	3-23-44	11-23-44	11-23-44	
Campbell, William W.	Capt	0-270402	11-24-44			11-24-44	
Chamberlain, William H.	Col	0-238613	5-10-45	5-10-45	6-3-45		
Coleman, Nathan W.	Capt	0-498015	3-22-44	3-22-44	12-23-44		
Collins, Neville H.	Capt	0-1036005	2-1-45			2-1-45	
Cottrill, Fred D.	2d Lt	0-1039222	3-19-44	3-19-44	12-7-44		
Kilmer, Claude	1st Lt	0-1037381	6-27-44	6-27-44	8-14-44		
Elliott, Lowell A.	Col	0-10712	7-23-44	7-23-44	8-11-44		
			2-20-45	2-20-45	2-24-45		
Emerson, George A.	1st Lt	0-874643	3-20-45			3-20-45	
Fisher, Bethuel	1st Lt	0-1039222	12-22-44			12-22-44	
Fisher, David W.	1st Lt	0-1036143	9-11-44	9-11-44	10-31-44		
Fyfe, Arthur W.	1st Lt	0-1039333	3-19-44	3-19-44	11-1-44	11-1-44	

Handwritten signature

OASD (P&R)

NATIONAL PERSONNEL RECORDS CENTER, ST. LOUIS, MO

EXTENSIVE COLLECTION OF PERSONNEL AND ORGANIZATIONAL FILES FROM EARLY 1900'S TO PRESENT

RECORDS INCLUDE TECHNICAL TEST INFORMATION, CONTRACT INFORMATION, PERSONNEL AND MEDICAL RECORDS

PERSONNEL RECORDS INCLUDE MILITARY AND CIVILIANS

U.S. ARMY PERSONNEL RECORDS 1912-60 BURNED IN 1971

U.S. AIR FORCE PERSONNEL RECORDS 1947-63 BURNED

U.S. NAVY PERSONNEL & MEDICAL RECORDS IN TACT

WWII CIVILIAN PERSONNEL RECORDS AVAILABLE BY EMPLOYING INSTALLATION

EXTENSIVE COLLECTION (MICROFICHE) OF MORNING REPORTS

- Attachment A Sample Page from Records Location Report
- Attachment B Sample Documentation Found in Individual Research & Experimentation File
- Attachment C Sample Copy of Morning Report Found showing Arrival of Subject in Attachment B File
- Attachment D *Sample from Civilian Personnel Record for Chemical Plant Operator employed at Huntsville Arsenal, 1941-43 (copy of medical treatment card for mustard gas burn)

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFORMATION SYSTEMS COMMAND
FORT HUACHUCA, ARIZONA 85613-5000



REPLY TO
ATTENTION OF



ASOP (25)

JUN 23 1993

MEMORANDUM THRU Director of Information Systems for Command, *29 Jun 93*
Control, Communications, and Computers,
ATTN: SAIS-IDP, 107 Army Pentagon,
Washington, DC 20310-0107

FOR Deputy Chief of Staff Operations and Plans, ATTN:
DAMO-FDB, 400 Army Pentagon, Washington, DC 20210-0400

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

1. References:

a. Memorandum, Deputy Secretary of Defense, 9 Mar 93, SAB
(encl 1).

b. Memorandum, this headquarters, ASOP, 14 Jun 93, SAB
(encl 2).

2. Subject records search was conducted throughout Army activities. Consolidated report and copies of positive responses are contained in enclosure 3. All other Army activities reported negative results.

3. HQ, USAISC point of contact for this action is Monette Blanco, ASOP-MR, DSN 879-4749, commercial (602) 879-4749, e-mail address mblanco@huachuca-emh1.army.mil.

FOR THE COMMANDER:

3 Encls
as

William M. Bates
WILLIAM M. BATES
COL, GS
DCSOPS

A

- (1) Number of personnel required.

YPG feels that based on the limited number of records found in their search it is expected that resource requirements to prepare a data base would be minimal.

DPG - 2.5 people.

- (2) Cost salary.

DPG - \$65,000.

- (3) Cost if contracted out.

DPG - Unknown at this time.

- (4) Estimated time to complete.

DPG - One person 2 years, two people 1 year using approximately 5,000 man-hours.

- (5) Workload impact on organization.

DPG - Devastating.

c. Point of contact at this headquarters is Mrs. Barbara Hornberger, AMSTE-CI-A, amstecia@apg-9.apg.army.mil, DSN 298-1051.

3. The point of contact for this action is Mrs. Williams, DSN 284-8965, e-mail fwilliam@alexandria-emh1.army.mil.

4. AMC -- America's Arsenal for the Brave.

FOR THE COMMANDER:

Encl
wd

//s//
TOMMY T. OSBORNE
Colonel, GS
Corporate Information Officer

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM- (OT) -59)

g. The POC for this office is Mrs. Diane L. Hawver, AMSCB-CIR, DSN 584-2295, and Mr. Steve Lawhorn, AMSCB-CIM, DSN 584-2938.

(3) TECOM -- Requested information for the U.S. Army Test and Evaluation Command (TECOM) is as follows:

a. Number of records located by media:

(1) Paper records.

U.S. Army Yuma Proving Ground (YPG), Yuma, Arizona - 11 paper records.

U.S. Army Dugway Proving Ground (DPG), Dugway, Utah - approximately 6,000 paper records.

This is an estimated number of records derived from scanning 750 boxes (1 sq. ft. per box). This effort took six people, 8 solid 10-hour days. To count individual name and social effort with the same number of people. security numbers as a record would entail at least a 3-month effort with the same number of people.

(2) Index cards, punch cards, aperture cards.

DPG - 1500 data cards.

(3) Microforms or other machine-readable to include dosimetry badges.

Negative.

(4) Electronic records.

DPG - 2000. (Presently a data base is used by the Safety Office to track individuals working with chemicals.)

(5) Other.

YPG - Possibly one film based on filing subject.

b. Estimated cost to prepare a data base covering all the pertinent records at each location:

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM- (OT) -59)

Note: A large portion of these records are maintained at Rocky Mountain Arsenal.

(2) The following estimate for cost to prepare requested database follows if contracted out:

a. Based upon other work that we have done, we have based our estimates on individual documents or file cabinet drawers of documents. In this case we have assumed a file cabinet drawer holds 2 linear feet of paper. A reel of microfiche might correspond to a file cabinet drawer of material.

b. There are two levels of processing that we have identified. The first is simply to index the material. That covers simply identifying the title and location of the document with only minimal information about its contents. That effort is estimated at about \$600/drawer. The second level of effort is to review and index the document with key words and a short abstract. The cost is significantly higher, because technically qualified people must read and catalogue the document. That cost is estimated at \$2500 per drawer.

c. The electronic files (to include the optical data) could be simply catalogued by file name, etc. with minimal reading of the actual contents for the purposes of this exercise. A fixed cost of \$30K was included for that purpose.

d. Using the cost for only the most minimal identification and cataloguing of the above materials (the \$600/drawer estimate), the following cost estimate is provided:

8465 linear feet = 4235.5 drawers @ \$600 =	\$2.54M
6776 reels of microfiche @ \$600 =	\$4.07M
29 linear feet of index cards (\$500K)=	\$0.50M
288 gig electronic and other (\$30K) =	\$0.03M

Total	\$7.14M

e. The time estimate would be fairly long - 12 to 18 months assuming that the decision was made to do the job in its entirety so the contractor could properly allocate/realign his staff.

f. Obviously, such an estimate is very shaky, because the contents of the different collections can vary so greatly. This is the best that I can do without looking in detail at the various collections. And I am afraid that the more we look, the higher the estimate would go.

type 61

(Message # 61: 7962 bytes, New)

From: Williams_Frances.AMCIO%aelan@alexandria-emh4.army.mil

Date: Thu, 17 Jun 93 15:17:00 EDT

To: mblanco@huachuca-emh1.army.mil

Cc: Williams_Frances.AMCIO%aelan@alexandria-emh4.army.mil

Subject: Weapons Research Programs Using Human Test Subjects

Return-Receipt-To:

Williams_Frances.AMCIO%aelan@alexandria-emh4.army.mil

X-Attach: K:\data\wrp-rpl.doc

Comment: The attached MS-DOS/Macintosh files have been appended to the end of this message.

----- WRP-RPL.DOC -----

The following text attachment was appended to the message below.

AMCIO-FP (SAIS-IDP/11 May 93) (25-1i) 1st End Mrs. Williams/
DSN 284-8965

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS CSIM-(OT)-59)

17 Jun 1993

Cdr, U.S. Army Materiel Command, Alexandria, VA 22333-0001

FOR Cdr, U.S. Army Information Systems Command, ATTN: ASOP-MR
(Mrs. Monette Blanco), Fort Huachuca, AZ 85613-5000

1. Headquarters, U. S. Army Materiel Command has located some Weapon Research Programs Using Human Test Subjects records from Chemical and Biological Defense Agency (CBDA) and Army Test and Evaluation Command (TECOM).

2. Following information received from Chemical and Biological Defense Agency (CBDA) and Army Test and Evaluation Command (TECOM) are as follows:

(1) CBDA -- The U.S. Army Chemical and Biological Defense Agency has conducted a records search to identify records relative to chemical and biological testing as prescribed in previous correspondence. The results are as follows:

Paper	-8465 linear feet
Index cards, etc.	-29 linear feet
Microforms, etc.	-6776 reels, 200 FHS tapes
Electronic	-288 gigabytes
Other	-15 linear feet of equipment, plus 4 - 12" optical disk in CLV format

Weapons Research Programs Using Human Test Subjects
(RCS: CSIM- (OT) -59)

Location	Records	Cost of conversion
U.S. Army Chemical and Biological Defense Agency, Aberdeen PG, MD POC: Ms Hawver, AMSCB-CIR, DSN 584-2295	8465 linear feet paper 29 linear feet index cards 6776 reels microforms 200 FHS tapes 288 gigabytes electronic 4 12" optical disc	\$2.54M .50M 4.07M .03M <hr/> \$7.14M
Note: Some of these records are located at Rocky Mountain Arsenal.		
Army Test and Evaluation Command (TECOM), records located at Yuma Proving Grnds Dugway Proving Grnds POC: Ms. Hornberger AMSTE-CI-A, DSN 298-1051	5 linear feet paper 1 linear feet data cards 1 data base containing 2000 records 1 film	 <hr/> \$65 K
U.S. Army Medical Research and Development Cmd, Ft Detrick, Frederick, MD. POC: LTC Jeff Davies, SGS, DSN: 343-7111	100 linear feet paper 7000 sets of microfiche 200 minutes of film media	 <hr/> \$750K
U.S. Army Training and Doctrine Command Chemical Center and Chemical Corps Museum, Ft McClellan, AL. POC: Mr. Adkins HQ TRADOC, ATIM-SR, DSN: 680-4414	735 linear feet paper (plus various books, studies, manuals, etc)	 <hr/> \$65K
U.S. Army Intel- ligence and Security Command, Ft. Belvoir VA. POC Ms. Stanton DSN 235-1206.	1 paper record 1 microfiche record 106 electronic records	 <hr/> \$900.00

4 encls
1-4 Positive responses to records search



DEPARTMENT OF THE ARMY
 U.S. ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND
 FORT DETRICK, FREDERICK, MD 21702-5012



REPLY TO
 ATTENTION OF:

SGRD-ZA (25-1i)

03 JUN 1993

MEMORANDUM THRU

10 JUN

Chief of Staff, Army, Washington, DC 20310

David E. Suttle, M.D.
 Colonel, GS

~~Assistant Secretary of the Army (M&RA), Washington, DC 20310~~
 Assistant Deputy for Health Po

FOR Acting Assistant Secretary of Defense (Health Affairs),
 Washington, DC 20301-1200

SUBJECT: Chemical/Biological Weapons Research Programs Using
 Human Test Subjects

1. Reference memorandum, Administrative Assistant to the Secretary of the Army, 21 May 1993, SAB.
2. In accordance with paragraph 3 of reference memorandum, the following is submitted:
 - a. Number of records located by media:
 - (1) Paper Records - 100 linear feet (50 boxes in Records Holding containers).
 - (2) Index cards, punch cards, aperture cards - None.
 - (3) Microforms or machine-readable, including dosimetry badges - Approximately 7000 sets of medical records on microfiche.
 - (4) Electronic records - None.
 - (5) Other - Approximately 200 minutes of film media.
 - b. Cost to prepare a database:
 - (1) Number of personnel required - Eleven manyears.
 - (2) Cost salary - See Item (5) below.
 - (3) Cost if contracted out - \$700K (GOCO) (need to consider COR cost of approximately \$50K).
 - (4) Estimated time-to complete - Three years.

MRA
 7/6/90


SGRD-2A

SUBJECT: Chemical/Biological Weapons Research Programs Using Human Test Subjects

(5) Workload impact on organization - This work cannot be conducted by in-house personnel. As a result of Program Budget Decision 755, this Command's entire infrastructure effort has been significantly reduced towards the end of increasing contracting out (extramural) effort. In addition, the directed infrastructure reductions, the concomitant personnel reductions have forced degradation in mission accomplishment. Conduct of the work necessary to accomplish the establishment of a complete database of files holdings must, by necessity, be a contract effort.

3. These estimates are based on a milestone 0 startpoint on existing records with the addition of a thorough search for information which would include review of the volunteer's medical records that are on microfiche. Additionally, it would include a complete scrub of the aforementioned 50 boxes of records holding containers. Further, these estimates are based on historical workload data of a similar effort a decade ago.

4. Point of contact for this action is LTC Jeff Davies, Secretary of the General Staff, who can be reached at 301-619-7111 or DSN 343-7111.


RICHARD T. TRAVIS
Major General, MC
Commanding

CF:
DASG-ZXA
SGFS-AOR

Comments: Converted from PROFS to RFC822 format by PUMP V2.2X
Date: Wed, 16 Jun 93 11:30:13 EDT
From: WARREN ATKINS
<ATKINSW@MONROE-EMH1.ARMY.MIL>
Subject: Records Search (CB Warfare)
To: "ASOP-MR HQ USAISC"
<mblanco@huachuca-emh1.army.mil>,
<\$DOC@MONROE-EMH1.ARMY.MIL>

ATIM-SR (ASOP-MR\11 May 93) (25-1i) 1st End
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59

Commander, TRADOC, ATTN: ATIN-SR, Fort Monroe, VA 23651-5000
16 Jun 93

FOR Commander, U.S. Army Information System Command, ATTN:
ASOP-MR, Fort Huachuca, AZ 85613-5000

1. All TRADOC installations and activities have been canvassed for records relative to use of human test subjects in weapons research programs. Only the Chemical Center reported holdings which may support action planning of the DA staff. The holdings at the Chemical Center and the Chemical Corps Museum at Fort McClellan, AL, are paper documents and identified at enclosures 3 and 4.

2. Points of contact are--

a. HQ, TRADOC; Warren Atkins, DSN 680-2417; FAX DSN 680-2666; E-Mail .ddn ATKINSW@MONROE-EMH1.ARMY.MIL.

b. Chemical Center; Ms. Ann Koonce, DSN 865-6794 (Records Manager); Mr. Pastorett, DSN 865-4414 (DTD, Chemical School).

FOR THE COMMANDER:

4 Encls
1-2. nc
Added 2 encls
3-4. as

/Signed MARKEY, ADCSIM/
for/DAVID G. FITZ-ENZ
Colonel, GS
Deputy Chief of Staff for
Information Management

ENCL 3

CHEMICAL CENTER
Fort McClellan, AL 36205

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM- (OT) -59

1. Fisher Library has two document collections, one - classified and one - unclassified. Each collection has some uncataloged material, which would have to be examined closely. Those items which have been cataloged will be much quicker to search.

2. Unclassified documents. Corps of Engineers, Fort Belvoir, had two contractors (American University) search for World War I documents. They found about 700 incidents of human exposure to chemical agents as a part of training or testing in about 100 linear feet of documents. It took two people about two months to do the search and establish a data base of their findings. There is an effort to get the COE office in St Louis to fund searching the rest of the collection to do the same analysis. They estimate 12-15 months (one person) to complete the search. (Approx 213 lin ft of records).

3. Classified documents. Battelle Institute sent a representative here to look at both document collections from the point of searching biological warfare and had six representatives from BDM and SAIC to look at some documents, which took about a week, and they will be back for another week. Based on these samples, it would take two people (one SME and one data base operator) a year or more to do the search requested. (Approx 522 lin ft of records).

4. Point of contact is Mr. Pastorett, Information Services Center, DSN 865-4414.

ENCL 4

CHEMICAL CORPS MUSEUM
Fort McClellan, AL 36205

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM- (OT) -59

The Chemical Corps Museum records which relate to exposure or potential exposure to humans in the research, development, test, and evaluation (RDTE), and production, transportation, storage, training, or disposal of such material are--

- a. Armed Forces Doctrine for Chemical and Biological Defense (FM 101-40).
- b. Chemical Agents in War (Infantry School Pamphlet).
- c. Poison on the Wind (Copy of Book).
- d. Chemical Warfare and Aviation by Army-Navy Courier.
- e. Enemy Tactics in Chemical Warfare, Military Intelligence Division, War Department.
- f. Gas Attacks, Ammunitions Required to Cause Fatal Effects.
- g. Principles Governing the Use of Chemical Agents.
- h. Pugwash Conference.
- i. Research in CAB, House of Representatives Report #815.
- j. A Historical Survey on U.S. Government Policies on Chemical and Biological Warfare. Project PUSSARCE.
- k. International Response to Future Use of Non lethal Munitions, Problems and Prospects.
- l. Hazardous Commercial Chemical Data Handbook (BZI-160), U.S. Army Missile and Munitions Center and School, Redstone Arsenal.
- m. Characteristics of Biological Agents, PAM 51-EA021.
- n. Mabel Nein Vs U.S. Government, GEN Greedy's Papers.
- o. Biological Laboratories, Camp Detrick, Functional Organizational Manual.
- p. Capabilities of Biological Warfare, Memo to the Joint Chief of Staff.
- q. Biological Warfare, An Annotated Bibliography.

r. Technical Study #158, Appendix I.

s. U.S. Army Activity in the U.S. Biological Warfare Program, Volumes I and II.

t. Herbicides, A Handout, FB 600-640-1, Chemical Center and School.

u. Chemical Corps, Medical Labs, Special Report #25.

v. 35 Field Manual and 212 Technical Manuals on Chemical Equipment and Training

IAIM-RP-R (ASOP/11 May 92) (25-1i) 1st End Ms. Stanton/
las/DSN 235-1206
SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

Commander, U.S. Army Intelligence and Security Command,
ATTN: IAIM-RP-R, Fort Belvoir, Virginia 22060-5370 11 JUN 1993

FOR Commander, U.S. Army Information Systems Command,
ATTN: ASOP-MR, Fort Huachuca, Arizona 85613-5000

1. A comprehensive records search was conducted throughout the Intelligence and Security Command for records pertaining to the subject request. Records relative to chemical/biological use were located and the following records holdings information is submitted:

a. Number of records located by media:

- (1) Paper records - 1.
- (2) Index cards, punch cards, aperture cards - 0.
- (3) Microforms or other machine-readable, include dosimetry badges - 1.
- (4) Electronic records - 106.
- (5) Other - 0.

b. Estimated cost to prepare a database covering all the pertinent records at each location.

- (1) Number of personnel required - 3.
- (2) Cost salary - \$900.00
- (3) Cost if contracted out - N/A, no need to contract out.
- (4) Estimated time to complete - four (4) days.
- (5) Workload impact on organization - minimal.


IAIM-RP-R

SUBJECT: Weapons Research Programs Using Human Test Subjects
(RCS: CSIM-(OT)-59)

2. The INSCOM point of contact for this action is
Lorraine Stanton, DSN 235-1206 or E-mail address
STANTONL%BEL1@LEAV-EMH.ARMY.MIL.

FOR THE COMMANDER:

2 Encls
wd all encls


JAMES D. CURRIE, JR.
Administrative Officer

07/07/93

TO: Marty

RE: Estimated reimbursement for NPRC services

The estimated reimbursable rates for NPRC services are as follows:

\$2.65 per record search

\$5.68 per case (includes search, records screening,
and data abstraction)

B.J. DAVIS
Management Analyst

Phone: 314-538-4174

B

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION
 LOCATION REPORT (07)
 ST. LOUIS NATIONAL PERSONNEL RECCRS CENTER (MPR-GPR)

PAGE 2

07/19/91

RC	BEGINNING LOCATION	ENDING LOCATION	ACCESSION NUMBER	SUB GRP	VOL	SP	HSTR	C AUTO	DISPOSAL AUTHORITY	DISP DATE	SERIES DESCRIPTION	
X	V1-04-01-7-6	V1-04-01-9-1	338-78-0236	VLT	8	S	S	A Y	AR345/220/18D	M U	ARSE REDSTONE	ADM 55
X	V1-04-01-9-2	V1-04-02-1-2	338-78-0237	VLT	13	S	S	A Y	340-18/1304/14	M CAP	ARSE REDSTONE	TECH REPT 4554
X	V1-04-02-1-3	V1-04-02-4-2	338-78-0238	VLT	18	S	S	A Y	340-18/1304/14	M CAP	ARSE REDSTONE	TECH REPT 54
X	V1-04-02-4-3	V1-04-02-5-1	338-78-0239	VLT	5	S	S	A Y	AR345/220/18D	M U	ARSE REDSTONE	ADM 5152
X	V1-04-02-5-2	V1-04-02-5-3	338-78-0240	VLT	2	S	S	A Y	340-18/228/01A	M CAP	PRVG GRD WHITE SANDS	HIST BKGRD 62
X	V1-04-02-5-4	V1-05-01-5-2	338-78-0241	VLT	97	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 6465
X	V1-05-01-5-3	V1-05-01-5-6	338-78-0242	VLT	4	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5361
X	V1-05-01-6-1	V1-05-01-6-4	338-78-0243	VLT	4	S	S	A Y	340-18/228/01A	M CAP	PRVG GRD WHITE SANDS	HIST BKGRD 5159
X	V1-05-01-6-5	V1-05-02-3-6	338-78-0244	VLT	44	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 6062
X	V1-05-02-4-1	V1-05-02-4-1	338-78-0245	VLT	1	S	S	A Y	340-18/501/01A	M CAP	PRVG GRD WHITE SANDS	INSTR 60
X	V1-05-02-4-2	V1-05-02-4-4	338-78-0246	VLT	3	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5458
X	V1-05-02-4-5	V1-06-01-5-5	338-78-0247	VLT	127	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5063
X	V1-06-01-5-6	V1-06-03-3-6	338-78-0248	VLT	109	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5163
X	V1-06-03-4-1	V1-06-03-4-3	338-78-0249	VLT	3	S	S	A Y	AR345/210/202711	M CAP	PRVG GRD WHITE SANDS	OPER PROG 5058
X	V1-06-03-4-4	V1-06-03-5-1	338-78-0250	VLT	4	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5154
X	V1-06-03-5-2	V1-06-03-5-3	338-78-0251	VLT	2	S	S	A Y	340-18/1301/01A	M CAP	PRVG GRD WHITE SANDS	INSTR 5158
X	V1-06-03-5-4	V1-06-03-6-1	338-78-0252	VLT	4	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5158
X	V1-06-03-6-2	V1-06-03-6-2	338-78-0253	VLT	1	S	S	A Y	AR345/220/18D	M U	PRVG GRD WHITE SANDS	ADM 57
X	V1-06-03-6-3	V1-06-03-7-3	338-78-0254	VLT	7	S	S	A Y	340-18/1301/01A	M CAP	PRVG GRD WHITE SANDS	INSTR 5357
X	V1-06-03-7-4	V1-06-03-7-4	338-78-0255	VLT	1	S	S	A Y	340-18/1301/01A	M CAP	PRVG GRD WHITE SANDS	INSTR 5356
X	V1-06-03-7-5	V1-06-03-8-1	338-78-0256	VLT	3	S	S	A Y	AR345/220/18D	M U	PRVG GRD WHITE SANDS	ADM 5155
X	V1-06-03-8-2	V1-06-03-8-5	338-78-0257	VLT	4	S	S	A Y	AR345/220/18D	M U	PRVG GRD WHITE SANDS	ADM 4654
X	V1-06-03-8-6	V1-06-03-8-6	338-78-0258	VLT	1	S	S	A Y	AR345/220/18D	M U	PRVG GRD WHITE SANDS	ADM 5255
X	V1-06-03-9-1	V1-07-01-7-2	338-78-0259	VLT	50	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 4655
X	V1-07-01-7-3	V1-07-01-7-3	338-78-0260	VLT	1	S	S	A Y	AR345/220/18D	M U	PRVG GRD WHITE SANDS	ADM 4654
X	V1-07-01-7-4	V1-07-01-9-5	338-78-0261	VLT	14	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 4655
X	V1-07-02-F-1	V1-07-02-F-4	338-78-0262	VLT	4	S	S	A Y	340-18/1304/14	M CAP	PRVG GRD WHITE SANDS	TECH REPT 5152
X	V1-07-02-F-5	V1-07-02-5-4	338-78-0263	VLT	30	S	S	A Y	340-18/1301/01A	M CAP	ARSE EDGEWOOD	INSTR 5154
X	V1-07-02-5-5	V1-07-03-2-2	338-78-0264	VLT	40	S	S	A Y	340-18/1301/01A	M CAP	ARSE EDGEWOOD	INSTR 5356
X	V1-07-03-2-3	V1-07-03-3-3	338-78-0265	VLT	7	S	S	A Y	340-18/1304/14	M CAP	ARSE ROCK ISLAND	TECH REPT 5159
X	V1-07-03-3-4	V1-07-03-6-5	338-78-0266	VLT	20	S	S	A Y	340-18/1304/14	M CAP	HARRY DIAMOND LAB	TECH REPT 4459
X	V1-07-03-6-6	V1-07-03-8-2	338-78-0267	VLT	9	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 5964
X	V1-07-03-8-3	V1-07-03-8-3	338-78-0268	VLT	1	S	S	A Y	340-18/211/03	M CAP	BIO LAB FT DETRICK	OPER PROG 6061
X	V1-07-03-8-4	V1-07-04-F-6	338-78-0270	VLT	15	S	S	A Y	340-18/1304/14	M CAP	ARSE EDGEWOOD	TECH REPT 6061
X	V1-07-04-1-1	V1-07-04-3-1	338-78-0271	VLT	13	S	S	A Y	340-18/1304/14	M CAP	ARSE EDGEWOOD	TECH REPT 5355
X	V1-07-04-3-2	V1-07-04-5-2	338-78-0272	VLT	13	S	S	A Y	340-18/1301/01A	M CAP	ARSE EDGEWOOD	INSTR 4367
X	V1-07-04-5-3	V1-07-04-7-6	338-78-0273	VLT	16	S	S	A Y	AR345/220/18D	M U	ARSE EDGEWOOD	ADM 5157
X	V1-07-04-8-1	V1-07-04-8-4	338-78-0274	VLT	4	S	S	A Y	AR345/220/18D	M U	ARSE EDGEWOOD	ADM 4863
X	V1-07-04-8-5	V1-07-04-9-4	338-78-0275	VLT	6	S	S	A Y	340-18/502/01B	M U	ARSE EDGEWOOD	INTELLEDATA 5056
X	V1-07-04-9-5	V1-08-01-1-4	338-78-0276	VLT	12	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 5965
X	V1-08-01-1-5	V1-08-01-1-6	338-78-0277	VLT	2	S	S	A Y	340-18/501/01A	M CAP	BIO LAB FT DETRICK	INSTR 59
X	V1-08-01-2-1	V1-08-01-2-3	338-78-0278	VLT	3	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 57
X	V1-08-01-2-4	V1-08-01-2-4	338-78-0279	VLT	1	S	S	A Y	340-18/211/03	M CAP	BIO LAB FT DETRICK	OPER PROG 62
X	V1-08-01-2-5	V1-08-01-2-6	338-78-0280	VLT	2	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 5860
X	V1-08-01-3-1	V1-08-01-3-1	338-78-0281	VLT	1	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 5860
X	V1-08-01-3-2	V1-08-01-4-3	338-78-0282	VLT	8	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 5660
X	V1-08-01-4-4	V1-08-01-4-5	338-78-0283	VLT	2	S	S	A Y	340-18/211/03	M CAP	BIO LAB FT DETRICK	OPER PROG 5660
X	V1-08-01-	1-08-01-5-2	338-78-0284	VLT	3	S	S	A Y	AR345/220/18D	M U	BIO LAB FT DETRICK	ADM 58
X	V1-08-01-	1-08-01-7-2	338-78-0285	VLT	12	S	S	A Y	AR345/220/18D	M U	BIO LAB FT DETRICK	ADM 57
X	V1-08-01-	3 V1-08-01-9-3	338-78-0286	VLT	13	S	S	A Y	340-18/1304/14	M CAP	BIO LAB FT DETRICK	TECH REPT 57

TEST SUMMARY

1. ~~_____~~
RA 12 807 472
RA

NAME _____

RANK _____ S.N. _____

TYPE OF TEST

DATE

1. TP 29/34 10 Nov 19 Sept 68

2. TP 17093 (Sidel) [unclear] 20 Sept Nov 70

3. TP 17107 [unclear] 17 [unclear] 68

4. TP-11719 - [unclear] #2551 15 Nov 68

5. [unclear] SP4 5216 RA 12 807 472
Company A 75th Engineer Bn, Fort George G Meade, Maryland

6. Para 2, SO #174, DA, Hqs, 75th Engineer Battalion (Cnst),
Fort George G. Meade, Maryland 20755, 22 August 1968.

7. REPORTED: 2 September 1968 RELEASED: 3 Nov 68

8. _____

~~X~~
The medical records of this volunteer have been reviewed and he is hereby released from the Human Volunteer Program.

Date 30 Oct

[Signature]
Medical Officer

VX Study
PAM CL 12/27/60

VOLUNTEER'S PARTICIPATION AGREEMENT
U. S. ARMY CHEMICAL RESEARCH AND DEVELOPMENT LABORATORIES
U. S. ARMY CHEMICAL CENTER, MARYLAND



RA 25 591 125 VOL # 1880

NAME [Redacted]

Age Race Grade Serial No.

Organization

Name of Nearest Relative

Address of Nearest Relative

Telephone Number of Nearest Relative

I, , have received, read and understand a document entitled, "Medical Research Volunteer Program," copy of which is annexed hereto, and that the general nature of the experiments I have volunteered to participate in have been explained from the standpoint of possible hazards to my health. It is my understanding that the experiments are so designed, based on the results of animal and previous human experimentation, that the anticipated results will justify the performance of the experiment. I understand further that experiments will be so conducted as to avoid all unnecessary physical and mental suffering and injury, and that I will be at liberty to request that the experiments be terminated at any time if in my opinion I have reached the physical or mental state where continuation of the experiments becomes undesirable.

I recognize that in the pursuit of certain experiments transitory discomfort may occur and when such reactions seem especially likely to occur I will be so advised. I recognize, also, that under these circumstances, I must rely upon the skill and wisdom of the physician supervising the experiment to institute whatever medical or surgical measures are indicated to protect me.

There has been no coercion, element of fraud or deceit, undue moral suasion or other adverse pressure brought to bear in my volunteering for this duty. I have done so of my own free will, completely aware of all hazards, rewards and recognition involved.

DATE: 13 December 1960 WITNESS: [Signature]
SIGNED: [Signature] WITNESS: [Signature]

B

C

WAR DEPARTMENT
REPORT OF FIELD PERSONNEL ACTION

Huntsville Arsenal, Alabama

(Station)

October 5, 1942

(Date)

TO: Chief, Chemical Warfare Service, Washington, D. C.

1. NAME James Edward Barber

2. NATURE OF ACTION Change in Status (Within Grade Promotion)

3. EFFECTIVE DATE October 16, 1942

9. C.S.C. REPORT SERIES

Permanent

10. CIVIL SERVICE AUTHORITY

11. APPROPRIATE

12. DATE OF EFFECTIVE

8/4/22

13. SUBJECT TO REVERSAL

YES

14. IF SEPARATE LAST PAID TIME

15. BUREAU AUTHORITY FOR ACTION POSITIVE

Orders M

	FROM	TO
4. POSITION	Chemical Plant Operator	Chemical Plant Operator
5. GRADE AND OR SALARY ALLOWANCES	Uncl-16, \$6.24 per diem	Uncl-15, \$6.72 per diem
6. BUREAU AND OR OTHER UNIT	Chemical Warfare Service	Chemical Warfare Service
7. HEADQUARTERS AND DUTY STATION	Huntsville Arsenal, Alabama	Huntsville Arsenal, Alabama
8. DEPARTMENTAL OR FIELD	<input checked="" type="checkbox"/> FIELD	<input checked="" type="checkbox"/> FIELD

REMARKS: Probational Appointment - December 29, 1941.

COPIES TO: (Check)

1. DISTRICT MANAGER - TEMPORARY SERIES ONLY.

2. CSC COPY ATTACHED - PERMANENT SERIES ONLY.

3. EMPLOYEE

4. CIV. PERS. FIELD OFFICE - CHANGE IN NAME OF GRADED EMPLOYEE ONLY.

File

Payroll Department

16.

TOM WILLIAMS (Sgt. Captain),
Civilian Personnel Office

CIVILIAN PERSONNEL
DISEASE AND ACCIDENT FORM

~~XXXXXXXXXX~~ J. E. 599
SURNAME CHRISTIAN NAME MIDDLE NAME EMPLOYMENT NO.

21 Monroe St. Huntsville Ala
HOME ADDRESS STREET NUMBER CITY COUNTY STATE

20 W single
AGE RACE MARITAL STATUS

HSM #1 -
PLACE OF EMPLOYMENT OCCUPATION AMOUNT OF SERVICE AT TASK

DISEASE:
INJURY, TYPE OF; LACERATION, PUNCTURE, BURN, CONTUSION, ETC.

Burn I/S

PART INVOLVED AS HAND, FOOT, EYE, EAR, RIGHT OR LEFT

R. J. arm
peel -

SEVERITY MILD SEVERE

HOW WHEN WHERE INCURRED? PRODUCING AGENT

10/15 8-4 shift IP HSM #2 -
Was safety gear at the
time.

Do not know how it happened

TREATMENT: R. C. Station Hospital
on 10/16 -

10/17 - STO (DSD) - T: areas.
Blister broken on peel.

TREATED BY** J. J. [Signature]

DISPOSITION:

TREATED BY** M. C.

PLACE OF TREATMENT Dig #1 - Blountsden

10/18 - STO + DSD *J. Brown*
 10/19/42 - STO + D.S.A. *J. Brown*
 10-20-42, Sulfa, P.O. + D.S.D. " " " "
 10-22-42 Sulfa, P.O. + D.S.D. " " " "
 10-24-42, " " " + D.S.D. " " " "
 10-25-42, " " " " " " *Brown*
 10-26-42, D.S.A. to arm. " " " "
 10-29-42 - ST P. + DSD + *J. Brown*
front arm
 10-30-42 - S.C. -
 10/31/42 - D.S.D. to arm. *Blanton*

YEAR

INJURY	DISEASE
JAN.	JAN.
FEB.	FEB.
MAR.	MAR.
APR.	APR.
MAY	MAY
JUN.	JUN.
JUL.	JUL.
AUG.	AUG.
SEP.	SEP.
OCT.	OCT.
NOV.	NOV.
DEC.	DEC.

TOTAL TIME LOST:

DISEASExx
 INJURYxx

DAYS OF TREATMENT...NO LOST TIME

DISEASE
 INJURY

B

CIVILIAN-PERSONNEL
DISEASE AND ACCIDENT FORM

 James B# 599
 SURNAME CHRISTIAN NAME MIDDLE NAME EMPLOYMENT NO.
211 Monroe St. City
 HOME ADDRESS STREET NUMBER CITY COUNTY STATE
20 W Single
 AGE RACE MARITAL STATUS
HSM # 2 Food
 PLACE OF EMPLOYMENT OCCUPATION AMOUNT OF SERVICE AT TASK

DISEASE:
 INJURY TYPE OF: LACERATION, PUNCTURE, BURN, CONTUSION, Etc.

diag: H.S. Burn Rt
Hand Toe.
10-14-42
2nd Diag: HS burn rt forearm
 PART INVOLVED AS HAND, FOOT, EYE, EAR, RIGHT OR LEFT

Rt. Foot
2nd. Right Arm

SEVERITY: MILD SEVERE

HOW WHEN WHERE INCURRED PRODUCING AGENT
9-23-42 2 P.M. While
working on the 4 to 12
shift on 9-22-42 &
got an H.S. burn on my

TREATMENT: Foot bleed treated
how it happened.
Blister ruptured.
Dressed S.T.O. WSM

TREATED BY** R. N.

DISPOSITION:

TREATED BY** M. C.

PLACE OF TREATMENT
Sta. Hoop.

7

2nd. Injury- I have a red spot on my right arm, that looks like a HS burn but I don't know when I got it or how, noticed red spot 1st time today.

10/14/42 2nd. Injury Treatment.

*Sulfathiazole dressed a v p p
H.S. B. - H.S. -
10-15-42 Dress. H.S.*

YEAR

INJURY	DISEASE
JAN.	JAN.
FEB.	FEB.
MAR.	MAR.
APR.	APR.
MAY	MAY
JUN.	JUN.
JUL.	JUL.
AUG.	AUG.
SEP.	SEP.
OCT.	OCT.
NOV.	NOV.
DEC.	DEC.

TOTAL TIME LOST:

DISEASE**
INJURY**

DAYS OF TREATMENT...NO LOST TIME

DISEASE
INJURY



OASD (P&R)

DUGWAY PROVING GROUND TECHNICAL LIBRARY

EXTENSIVE COLLECTION OF OVER 60,000 DOCUMENTS ON
CHEMICAL WARFARE CATALOGED ON CBINFONET DATABASE

OVER 10,000 DOCUMENTS HAVE BEEN IMAGED ONTO OPTICAL
DISKS

LOCATED INFORMATION ON TESTS, DATES, SITES, AND AGENTS
BUT NO PERSONNEL IDENTIFIERS

OBTAINED TWO ACCIDENT REPORTS ON CIVILIAN EMPLOYEES
EXPOSED TO CHEMICAL AGENT THROUGH INDUSTRIAL ACCIDENT

Attachment A Copy of Accident Report on Mustard Burn

MEMORANDUM FOR RECORD

SUBJECT: Mustard Agent Exposure - [REDACTED]

WB-9 Lixmo Amjector

1. This MFR has been written from the last available information as of COB 25 June 1981.

2. On Monday, 22 June 1981, at approximately 1245 hours, a surveillance group of five personnel started operations inside Building 2005 to collect 5 one liter samples of mustard using SOP SDSTE 356, dated 2 April 1981.

3. The transfer team consisted of:

- [REDACTED] Team Leader
- [REDACTED] Safety Man
- [REDACTED]
- [REDACTED]
- [REDACTED]

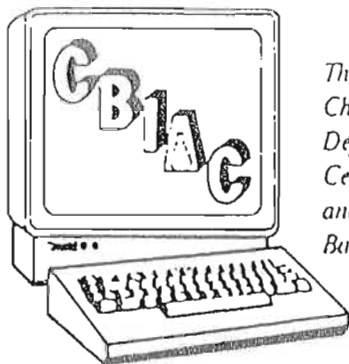
4. The work area for the Building 2005 operation is seen in Figure 1 with 4 workers inside Building 2005 and the safety man outside. The layout for the mustard transfer is shown in Figure 2 with the following major items present:

- a. The mustard ton container located on a ton container cradle. The cradle allows for rocking of the ton container and places the ton container about 24 inches above the floor.
- b. A decon container filled with STB slurry under the ton container valves.
- c. The one liter container to be filled and the ton container valve protector filled with decon under it.
- d. Two bubbler locations.
- e. A decon shuffle box for boot decon before exiting building.
- f. The agent transfer mechanism attached to the ton container. The system is similar to the unit shown in Figure 3. Figure 4 shows the schematic of the unit used. The system allowed for gravity filling and nitrogen purge.



REPORT

SERVICE RECORDS OF CHEMICAL WARFARE SERVICE UNITS WORLD WAR II



*The Chemical Warfare/
Chemical and Biological
Defense Information Analysis
Center is a DoD information
analysis center operated by
Battelle Memorial Institute*

Excerpts from CB-011335

APPENDIX H-1—CHEMICAL MORTAR BATTALIONS

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
1, Co A*	C30 Apr 31	30 Apr 31	12 Mar 42	Schofield Barracks, Hawaii	30 Apr 31	12 Mar 42	HD			24 Feb 20 C12 Mar 42	Activated as 2d Sep Cml Co 91 Cml Co (Mtz)
2, Co A*	16 Apr 35	16 Apr 35 17 Jan 42 10 Jul 42 21 Feb 43	16 Jan 42 9 Jul 42 21 Feb 43 24 May 43	Edgewood Arsenal, Md. Ft. Bragg, N. C. Carolina Maneuver Area Cp. Pickett, Va.	8 Jun 43 10 Jul 43 15 Aug 44	5 Jul 43 14 Aug 44 26 Jul 46	NATO MTO ETO	26 Jul 46	Germany	24 Nov 43 31 Dec 44	Only Hq & Hq Co & Co A were activated in 1935. The remaining units of the bn were activated 1 Jan 42.
3	1 Jan 42	1 Jan 42 7 Apr 42 30 Jul 42 27 Oct 42	3 Apr 42 28 Jul 42 25 Oct 42 16 Apr 43	Ft. Benning, Ga. Ft. Bliss, Tex. Louisiana Maneuver Area Ft. Bliss, Tex.	28 Apr 43 10 Jul 43 15 Aug 44	10 Jul 43 15 Aug 44 2 Jan 46	NATO MTO ETO	2 Jan 46	Cp. Patrick Henry, Va.	24 Nov 43 11 Mar 45	
71	C21 Nov 44	21 Nov 44 25 Nov 44	24 Nov 44 7 Jul 45	Cp. Stewart, Ga. Cp. Shelby, Miss.	12 Jul 45	17 Jan 46	SWPA	18 Jan 46	Seattle, Wash.	20 Nov 42 30 Apr 43	Activated as 479 CA Bn (Sep) Redesignated as 479 AAA AW Bn
72	C 7 Dec 44	7 Dec 44 2 Dec 44	1 Dec 44 1 Jun 45	Ft. Leonard Wood, Mo. Cp. Shelby, Miss.	6 Jun 45	18 Apr 46	MIDPAC	18 Apr 46	Oahu, Hawaii	10 Apr 43 1 Apr 44	Activated as 560 CA Bn (Sep) Redesignated as 560 AAA AW Bn
80*	30 Jun 44	30 Jun 44	15 Jan 45	Cp. Swift, Tex.	27 Jan 45	30 Jan 46	SWPA	1 Feb 46	Cp. Stoneman, Calif.	4 Mar 45	
81	25 Apr 42	24 Apr 42 4 Apr 43 7 May 43 12 Jun 43 31 Jul 43 9 Aug 43	2 Apr 43 4 May 43 10 Jun 43 31 Jul 43 9 Aug 43 14 Oct 43	Ft. D. A. Russell, Tex. Louisiana Maneuver Area Cp. Gordon Johnston, Fla. Cp. Pickett, Va. Cp. Bradford, Va. Cp. Pickett, Va.	22 Oct 43	2 Sep 45	ETO	7 Nov 45	Ft. Leonard Wood, Mo.	22 Feb 45	

APPENDIX H-4—CHEMICAL SMOKE GENERATOR COMPANIES

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
67	8 Jun 42	8 Jun 42 25 Nov 44	1 Aug 42 3 Apr 45	Cp. Haan, Calif. Cp. Sibert, Ala.	3 Sep 42 12 Apr 45	21 Nov 44 10 Nov 46	CZ SWPA	10 Nov 46	Philippines		
68	1 Jun 42	1 Jun 42 25 Nov 44	31 Jul 42 3 Apr 45	Cp. Haan, Calif. Cp. Sibert, Ala.	3 Sep 42 12 Apr 45	21 Nov 44 25 Jan 46	CZ SWPA	25 Jan 46	Okinawa		
69	20 Jun 42	1 Jul 42 22 Oct 42	18 Oct 42 24 Nov 42	Cp. Haan & Burbank, Calif. Cp. Edwards, Mass.	11 Dec 42 29 Jul 43 9 Sep 44	27 Jul 43 6 Sep 44 26 Nov 45	NATO MTO ETO	26 Nov 45	Cp. Patrick Henry, Va.		
70(N)	25 May 42	25 May 42	1 Sep 43	Sault Ste Marie, Mich.	25 Sep 43	8 Nov 44	SWPA	D 8 Nov 44	New Guinea		
71(N)	25 May 42	25 May 42 24 Dec 44 28 Mar 45	22 Dec 44 28 Mar 45 16 Jun 45	Edgewood Arsenal, Md. Cp. Sibert, Ala. Cp. Gordon Johnston, Fla.	27 Jun 45	25 Jan 46	SWPA	25 Jan 46	Okinawa		
72(N)	25 May 42	25 May 42 26 Oct 43 14 Apr 44 16 Jul 44	20 Oct 43 12 Apr 44 12 Jul 44 25 Jul 44	Ft. Lewis, Seattle, Wash. Cp. Sibert, Ala. Edgewood Arsenal, Md. Ft. Lewis, Wash.						C25 Jul 44	1532 Engr Dump Truck Co
73(N)	1 Jun 42	1 Jun 42 11 Jun 42 8 Oct 42 28 Oct 43 29 Mar 44	11 Jun 42 8 Oct 42 22 Oct 43 28 Mar 44 31 Mar 44	Cp. Haan, Calif. Cp. S. L. Obispo, Calif. Santa Monica, Calif. Cp. Sibert, Ala. Cp. Claiborne, La.						C31 Mar 44	1368 Engr Dump Truck Co
74(N)	20 Jul 42	20 Jul 42 28 Oct 43 20 Apr 44	22 Oct 43 19 Apr 44 15 Sep 44	Cp. S. L. Obispo & Bur- bank, Calif. Cp. Sibert, Ala. Cp. Gordon Johnston, Fla.	15 Sep 44	4 Apr 46	ETO	5 Apr 46	Cp. Kilmer, N. J.		

APPENDIX H-5—CHEMICAL COMPANIES, AIR OPERATIONS—Continued

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
832	15 Mar 43	15 Mar 43 11 Apr 43	10 Apr 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	Macon, Ga.		
833	15 Mar 43	15 Mar 43 11 Apr 43 27 Dec 43 1 Feb 44 15 Mar 44	10 Apr 43 26 Dec 43 28 Jan 44 15 Mar 44 1 May 44	Daniel Fld, Ga. Cp. Sibert, Ala. Greenville AAB, S. C. H. Smart Aprt, Ga. Dale Marbley Fld, Fla.				D 1 May 44	Barksdale Fld, La.		
834	15 Mar 43	15 Mar 43 11 Apr 43	10 Apr 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
835	15 Mar 43	15 Mar 43 16 May 43 18 Jan 44 5 Feb 44 18 Mar 44 1 Apr 44 7 Jun 44 7 Oct 44	15 May 43 18 Jan 44 5 Feb 44 18 Mar 44 31 Mar 44 2 Jun 44 2 Oct 44 14 Oct 44	Daniel Fld, Ga. Cp. Sibert, Ala. H. Smart Aprt, Ga. Greenville AAB, S. C. H. Smart Aprt, Ga. Barksdale Fld, La. Portland AAB, Ore. Barksdale Fld, La.				D14 Oct 44	Barksdale Fld, La.		
836	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
837	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
838	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
839	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
840	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		

NAVAL RESEARCH LABORATORY, ANACOSTIA, MD

NAVAL RESEARCH LAB HAS EXTRACTED APPROXIMATELY 2300
NAMES OF MILITARY TEST SUBJECTS FROM 11 SCIENTIFIC
NOTEBOOKS KEPT DURING 1942-45

MOST OF THESE TEST SUBJECTS CAME FROM THE NAVAL
TRAINING CENTER AT BAINBRIDGE, MD

THESE RECORDS WERE KEPT BY THE LAST NAME ONLY, IN MOST
CASES. A FEW HAVE FIRST NAME OR INITIALS. THERE WERE
NO SERVICE NUMBERS, ONLY PARTICIPANT NUMBER AND IN SOME
CASES THE NUMBER OF THE TRIAL THEY PARTICIPATED IN

Attachment A Sample of the 50 pages of names extracted
from NRL Researcher Notebooks

NRL CHEMICAL WARFARE VOLUNTEERS

as of July 13, 1993

Aaland, [REDACTED] Dec/Jan 44]
Abatemarco (Book # 5044) (p. 307a)
Abernethy (Book # 2912) (exp. 23.6)
Acosta (Book # 5641) (1006)
Adair (Book # 5641) (1027)
Adameit, R.A. (Book # 2912) (exp. 15.25)
Adams (Book # 4211) (192)
Adams (Book # 4211) (324)
Adams (Book # 4211) (371)
Adams (Book # 5445) (802)
Adams (Book # 5156) (463- also book 5044)
Adams, [Charles W.] (Book # 5156) [Mar/Apr 45]
Adams, J.W. (Book # 5156) (625)
Adams, [R.] (Book # 5044) (315)
Adams, Robert E. (Book # 2912) (exp. 22.11)
Addertion (Book # 5445) (864)
Addleman (Book # 4211) (200)
Adkins (Book # 5156) (764)
Agolini (Book # 5156) (563)
Akers, J. (Book # 2912) (exp. 9)
Alagra (Book # 5445) (pg. 591- also in book 4296, exp. 24)
Albanowski, F.J. (Book # 2912) (exp. 9)
Alben (Book # 5044) (p. 339)
Albertine (Book # 5641) (1007)
Albertson (Book # 5156) (561)
Albright (Book # 5044) (316)
Alexander (Book # 4491) (p. 267)
Alexander (Book # 4211) (41)
Alexander (Book # 5641) (1121)
Alexander (Book # 4296) (exp. 4)
Allen (Book # 4491) (30)
Allen, [John William] (Book # 5445) (865) [247-29-21]
Allen, [Maurice C. Jr.] (Book # 5156) (619) [247-07-64]
Alligood, A.T. (Book # 2912) (exp. 7)
Allred (Book # 5156) (534)
Alvers (Book # 5641) (1008)
Amory, Lloyd R. (Book # 2912) (exp. 4)
Anderson (Book # 5641) (1149)
Anderson, Bruce O. (Book # 5156) (774- also in book 5445)
Anderson, George W. (Book # 5156) (775- also in book 5445)
Andrews (Book # 5641) (1185)
Andrews (Book # 2912) (exp. 21.13)
Andrews (Book # 4296) (exp. 8)
Ansell (Book # 5044) (317)
Anthony (Book # 4491) (53)
[REDACTED] (Book # 5156) (718)

Note- The information in [] was located and inserted in 1993. Also, all records of full names newly inserted can be found in CW-116 folder (these are not in the scientific notebooks on file).

Book #4296 represents arm chamber tests

** These names were listed in scientific notebook #2931 being involved in either the treatment or cleaning of protective fabric. These names were added to this list in March 1993.

OASD (P&R)

UNIVERSITY OF CHICAGO LIBRARY, CHICAGO, IL

THIS RECORDS COLLECTION INCLUDES 82 BOXES FROM THE
OFFICE OF THE VICE PRESIDENT FOR SPECIAL PROJECTS
AT UNIVERSITY OF CHICAGO

IT CONTAINS RECORDS FOR THE YEARS 1940-1969

TWO BOXES HAVE BEEN TAGGED FOR POTENTIAL TEST
INFORMATION ON MUSTARD GAS TESTS

THIS COLLECTION HAS NOT BEEN REVIEWED

SECTION THREE

CHEMICAL WEAPONS EXPOSURE

PERSONNEL DATABASE

OASD (P&R)

CHEMICAL WEAPONS EXPOSURE PERSONNEL DATABASE
(MAINTAINED BY DEFENSE MANPOWER DATA CENTER)

DATABASE CONSISTS OF FOLLOWING INFORMATION FIELDS:

NAME, BRANCH OF SERVICE
SERVICE OR SOCIAL SECURITY NUMBER
AGE, RANK, OR GRADE IF CIVILIAN
AGENT EXPOSED TO (MUSTARD, LEWISITE, LSD)
PROJECT NAME, START & END DATE
EXPOSURE TYPE (CHAMBER OR FIELD TEST, ACCIDENT)
MILITARY UNIT
LOCATION OF DOCUMENTATION/RECORD
DOCUMENT/RECORD TYPE (MEDICAL, PERSONNEL)

690 NAMES HAVE BEEN ENTERED FROM MEDICAL CARDS FROM 1944-45
(BUSHNELL, EDGEWOOD ARSENAL, DUGWAY PROVING GROUND)

270 NAMES HAVE BEEN FORWARDED FROM SPECIAL COMMENDATION
ORDER 152 DATED 25 JUNE 1944

2300 NAMES FROM NAVAL RESEARCH LAB HAVE BEEN FORWARDED
FOR ENTRY INTO DATABASE (WWII MUSTARD GAS TESTS)

300 MEDICAL RECORDS HAVE BEEN LOCATED AT NPRC, ST. LOUIS
(EXPERIMENTS FROM LATE 1960'S USING LSD, CANNOBINAL,
VARIOUS HALUCINOGENICS)

800 ADDITIONAL MEDICAL RECORDS FROM SAME TEST PERIOD HAVE
BEEN TRACED TO U.S. ARMY MICROFICHED DOCUMENTS LOCATED
AT ABERDEEN PROVING GROUND (ORIGINAL MEDICAL RECORDS WERE
INTERFILED WITH PERSONNEL RECORDS IN ST. LOUIS)

ARMY & AIR FORCE HAVE DIRECTED FULL AGENCY RECORDS SEARCH
FOR ARCHIVED OR STORED RECORDS CONCERNING TESTING WITH
HUMAN SUBJECTS

OASD (P&R)

- Attachment A Special Order 152 Commendation Roster
- Attachment B Sample from Chemical Weapons Exposure Database (DMDC 30 Jun 93)
- Attachment C Copy of Army Letter Directing Full records Search 1993
- Attachment D Copy of Army Correspondence 1979-81 Directing Notification of Human Test Subjects, Collection of Documents, Copying, and Archiving

ARMY SERVICE FORCES
OFFICE OF THE CHIEF, CHEMICAL WARFARE SERVICE
Gravelly Point, Washington 25, D. C.

SPECIAL ORDERS)
NO. 152)

25 June 1944

1. The Chief of Chemical Warfare Service commends the officers and enlisted men who voluntarily submitted to tests conducted by the Medical Division. These men participated beyond the call of duty by subjecting themselves to pain, discomfort, and possible permanent injury for the advancement of research in protection for our armed forces. Those named below knowingly submitted to exposure to chemical agents for some period during the months designated:

September and October, 1943

PVT. EARL L. ALEXANDER, JR, 35704460
PVT. EDWARD A. ALTMAN, 33783419
PVT. CHARLES H. ANDRUS, JR, 19190666
PVT. WENDELL H. BAKER, 39915577
PVT. JOHN J. BERZELLINI, 13128186
PVT. BILLY B. BIGGS, 15311311
PVT. EDWARD M. BOROWSKY, 13127867
PVT. GEORGE L. BROCKWELL, 12170111
PVT. WALTER E. BUTINSKI, 13174719
PVT. CASON J. CALLAWAY, JR, 11282208
PVT. CANON CHAM, 11136627
PVT. FRANK B. CAVANIGH, 11091921
PVT. WILLIAM A. CHURKA, 13127969
PVT. WILLIAM J. CLARK, 12153623
PVT. WALTER E. COLEMAN, 32963757
PVT. ALFRED A. COOPER, 32962435
PVT. THOMAS A. CUSANO, 33782765
PVT. ERNEST W. DENEZ, 17176378
PVT. THOMAS N. DIORNETANO, 36856221
PVT. PAUL G. DODD, 35756116
PVT. JAMES C. DOHNEY, 11154717
PVT. FRANCIS S. ZARSHAN, JR, 35756216
PVT. WILLIAM B. ECKERT, 32915563
PVT. KURT J. EBEN, 32939806
PVT. WILLIAM H. EPES, 12126987
PVT. STANLEY G. FISHER, 33783307
PVT. ALFRED F. FELGENDEGER, 33782398
PVT. TERRALL C. FRANKS, 11154718

A

S.G. #142, CC CNS, 25 June 1944

PVT. WILLIAM G. WATSON, 32754254
 PVT. MICHAEL A. WEIGER, 17194836
 PVT. MATTHEW G. WEISLER, 31460219
 PVT. DONALD W. GREENE, 33489273
 PVT. JOHN L. HANCOCK, 32934808
 PVT. JOHN J. HANCOCK, 32271375
 PVT. HAROLD L. HARRIS, 39575623
 PVT. IRVIN HARRISON, 32963059
 PVT. ROBERT G. HARVEY, 31322943
 PVT. ABRAHAM I. HEDAYA, 32960125
 PVT. HOWARD S. HOFFMAN, 14158418
 PVT. JOHN P. HOGAN, 39915130
 PVT. GEORGE A. HOWE, 35231150
 PVT. ALBERT R. JASUTA, 13116280
 PVT. EARL T. JERMIN, 36856338
 PVT. MARY S. JATZ, 13174366
 PVT. KENNETH P. KERN, 15131316
 PVT. ROBERT A. KINGSLEY, JR, 33783349
 PVT. EDGAR L. LANDAUER, 13157000
 PVT. JACK P. LEIGH, 14154686
 PVT. ANDREW T. LEISER, 19134193
 PVT. ABRAHAM LEVINE, 32873220
 PVT. LELAND D. LEWIS, 12130739
 PVT. ROBERT J. LUNDBORG, 37560017
 PVT. AUGUST MAGNUSON, 39618845
 PVT. FOREST H. McDONNELL, 35767511
 PVT. HAROLD L. McWILLIAMS, 37528061
 PVT. ALVIN C. MEEXER, 12209897
 PVT. DAVID W. MORGAN, 37565078
 PVT. RAYMOND W. MILLER, 36466283
 PVT. JULIUS H. MOSELEVSKY, 31360094
 PVT. THOMAS W. MULLER, 14091967
 PVT. EUGENE F. MULLER, 35064911
 PVT. JOSEPH P. MULLANNY, 36822930
 PVT. WILLIAM S. MYERS, 13128296
 PVT. ALFRED J. O'BRIEN, 15243522
 PVT. ROBERT E. PARMLEY, 14154732
 PVT. WILLIAM G. PATTERSON, JR, 14091947
 PVT. RICHARD R. PEARSON, 12135690
 PVT. VICTOR E. PIERCE, 14150533
 PVT. ALBERT E. PIKE, 15301284
 PVT. WILLIAM J. PIPOTA, 32882371
 PVT. CHARLES RIBAUDO, 32965270
 PVT. DONALD L. ROBBIE, 37561828
 PVT. JOSEPH O. SACHAR, 32274208
 PVT. TRAVIS P. SANDIDGE, 14091966
 PVT. FRANK R. SAUTER, 37615817
 PVT. CALVIN F. SCHMIDT, 37527956

OBS	BRANCH	NAME	SSN	SVCNUM	DOB	AGE	RANK	AGENTS	ILOC	STATE	ZIP
27	A	BALLS ALBERT		34925435		19	PVT	H	BUSHNELL	FL	
28	A	BARLETT LESTER G JR		31268130			PFC	H	BUSHNELL	FL	
29	A	BARNABEE LOUIS K		33805808		26		VESICANT	EDGEWOOD ARSENAL	MD	
30	A	BARNWICK BERNARD		14183325		28	PVT	H	BUSHNELL	FL	
31	A	BARSCHE KARL R		19042161			T/3	CLASSIFIED	DUGWAY	UT	
32	A	BARTON ROBERT B		31457364			PVT	GAS	EDGEWOOD ARSENAL	MD	
33	A	BAUERNFELD ROBERT H		42013111		25	PVT	GAS	EDGEWOOD ARSENAL	MD	
34	A	BEATTY JOSE P		19049966			SGT	CLASSIFIED	EDGEWOOD ARSENAL	MD	
35	A	BECK JAMEE V		6394492		26	T/8	H	BUSHNELL	FL	
36	A	BECK JAMEE V		6394492		26	T/8	MOBILE CWS UNIT	BUSHNELL	FL	
37	A	BEDER ALEX A		31297293		24	LST SGT	CLASSIFIED	DUGWAY	UT	
38	A	BEDER ALEX A		31297293		24	LST SGT	OC CWS	DUGWAY	UT	
39	A	BEEHAN CHARLES H		39008575			T/4	CLASSIFIED	DUGWAY	UT	
40	A	BEEHAN CHARLES H		39008575			T/4	OC CWS	DUGWAY	UT	
41	A	BEENE JAMES L		39277358		20	PVT	GAS	EDGEWOOD ARSENAL	MD	
42	A	BELL PHILLIP F		36481726			TEC 5	H	BUSHNELL	FL	
43	A	BENE STEVE		31327872		37	PVT				
44	A	BENJAMIN DONALD W		33849079		20	PVT	GAS	EDGEWOOD ARSENAL	MD	
45	A	BENJAMIN ELLIS		33730179			PVT	H	BUSHNELL	FL	
46	A	BENNETT WILLIAM L		39680713		24	PFC	CLASSIFIED	DUGWAY	UT	
47	A	BENSON ARTHUR W		33203219			PVT	GAS	EDGEWOOD ARSENAL	MD	
48	A	BEREZINSKY JACOB		32957192		19	PVT	GAS	EDGEWOOD ARSENAL	MD	
49	A	BERTINO BENJAMIN J		32269034		23	PFC	H VAPOR	EDGEWOOD ARSENAL	MD	
50	A	BEYER FREDERICK C JR		32957596		19	PVT	GAS	EDGEWOOD ARSENAL	MD	
51	A	BIGGAE RAEFORD B		34176620		27	SGT	H	BUSHNELL	FL	
52	A	BISHOP FRED H		19052369			PFC	CLASSIFIED	DUGWAY	UT	

OBS	PROJECT	BEGDATE	ENDDATE	EXPOTYPE	NARRATIV	UNIT	SLOC	DOCTYPE	DOCNUM
27	BUSHNELL	441005	441207		YES		SUITLAND	MEDICAL	
28	BUSHNELL	440226	440311	FIELD TRIALS	YES		SUITLAND	MEDICAL	
29	BUSHNELL	440824		CHAMBER TEST	YES	6 M T B	SUITLAND	MEDICAL	
30	BUSHNELL	440819	441117	TRIAL TEST	YES	DPG MOBILE CWS UNIT	SUITLAND	MEDICAL	
31	BUSHNELL	450202	450411	TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
32	BUSHNELL	000824		TEST	YES	26 M T B CP GT	SUITLAND	MEDICAL	
33	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
34	BUSHNELL	440516		TEST	YES	9770 CWS EDT#4 MED DIV OC C	SUITLAND	MEDICAL	
35	BUSHNELL	440605	440925	TEST	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
36	BUSHNELL	440605	440925	TEST	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
37	BUSHNELL	440609		TEST	YES	121ST CWS	SUITLAND	MEDICAL	
38	BUSHNELL	440609		TEST	YES	121ST CWS	SUITLAND	MEDICAL	
39	BUSHNELL	441209		TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
40	BUSHNELL	441209		TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
41	BUSHNELL	440825	440923	TEST	YES	PP12 SQ200HQ	SUITLAND	MEDICAL	
42	BUSHNELL	440226	440311	TEST	YES		SUITLAND	MEDICAL	
43					YES	121	SUITLAND	MEDICAL	
44	BUSHNELL	440825	440926	TEST	YES	ENL DET 1848SU8SC	SUITLAND	MEDICAL	
45	BUSHNELL	440226	440311	FIELD TRIALS	YES		SUITLAND	MEDICAL	
46	BUSHNELL	440805		TEST	YES	SCU 3999 CWS	SUITLAND	MEDICAL	
47	BUSHNELL			TEST	YES	CP GROW 36 S T B ASFTC	SUITLAND	MEDICAL	
48	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
49	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
50	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
51	BUSHNELL	440605	440925	FIELD TRIALS	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
52	BUSHNELL	450131	450324	TEST	YES	9770 CWS DET#4 MED DIV OC C	SUITLAND	MEDICAL	

OBS	BRANCH	NAME	SSN	SVCNUM	DOB	AGE	RANK	AGENTS	ILOC	STATE
53	A	BLACKFORD GERALD E		12135265		23	TEC 5	GAS	EDGEWOOD ARSENAL	MD
54	A	BLAIR WALTER F		16152387		36	PVT	H	BUSHNELL	FL
55	A	BLANCHARD JACK G		39005151		25	SGT	CLASSIFIED	DUGWAY	UT
56	A	BLODGETT FREDERICK W		19048743		27	CPL	CLASSIFIED	DUGWAY	UT
57	A	BLUNT JOHN S		33634905			PFC	H	BUSHNELL	FL
58	A	BODIN SWEN R		39846383		39	T/5	CLASSIFIED	DUGWAY	UT
59	A	BOHART S		37544623		23	PVT	GAS	EDGEWOOD ARSENAL	MD
60	A	BOLTZ EDWARD G		6936218		23	S/SGT	CLASSIFIED	DUGWAY	UT
61	A	BOLTZ EDWARD G		6936218		23	S/SGT	OC CWS	DUGWAY	UT
62	A	BORGNIS ROBERT J		39392313		40	SGT	CLASSIFIED	DUGWAY	UT
63	A	BORGNIS ROBERT J		39392313		40	SGT	OC CWS	DUGWAY	UT
64	A	BOSWELL THOMAS C		20928366		22	PVT	OC CWS	DUGWAY	UT
65	A	BOSWELL THOMAS C		20928366		22	PVT	CLASSIFIED	DUGWAY	UT
66	A	BOTTORFF LOWELL E		35899410		20	PVT	MUSTARD GAS	BUSHNELL	FL
67	A	BOUCHARD LAWRENCE H		36464041			TEC 4	MUNITIONS	BUSHNELL	FL
68	A	BRACHT EDWARD H		31198321			T/5	MUSTARD GAS	BUSHNELL	FL
69	A	BRADLEY CLAUDE		39152979			T/4	CLASSIFIED	DUGWAY	UT
70	A	BRANNER JAMES C		38314153		26	PFC	MUSTARD GAS	BUSHNELL	FL
71	A	BRENNAN J J		33250874		26	W	GAS	EDGEWOOD ARSENAL	MD
72	A	BROGARD JOHN B		12062013		23	PVT	H VAPOR	BUSHNELL	FL
73	A	BROOKIE FRED P		39608969		27	PFC	GAS	EDGEWOOD ARSENAL	MD
74	A	BROWN BENNETT H		16172156		20	PFC	CLASSIFIED	DUGWAY	UT
75	A	BROWN POROY E		42115089		20	PVT	GAS	EDGEWOOD ARSENAL	MD
76	A	BROWN WALTER R		39846046			CPL	CLASSIFIED	DUGWAY	UT
77	A	BROWNELL KENNETH T		19010637		24	S/SGT	CLASSIFIED	DUGWAY	UT
78	A	BRUNO ANTHONY		20306116		24	PVT	CLASSIFIED	BUSHNELL	FL

OBS	ZIP	PROJECT	BEGDATE	ENDDATE	EXPOTYPE	NARRATIV	UNIT	SLOC	DOCTYPE	DOCNUM
53		BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
54		BUSHNELL	440819	441117	TEST	YES	OPC MOBILE CWS UNIT	SUITLAND	MEDICAL	
55		BUSHNELL	440805	440912	TEST	YES	CWS	SUITLAND	MEDICAL	
56		BUSHNELL	440806	440912	TEST	YES	SCG 3999	SUITLAND	MEDICAL	
57		BUSHNELL	440226	440311	FIELD TRIALS	YES		SUITLAND	MEDICAL	
58		BUSHNELL	440805	440912	TEST	YES	SCU 3999	SUITLAND	MEDICAL	
59		BUSHNELL	440902	440928	TEST	YES	HAMMON GEN HOSP.	SUITLAND	MEDICAL	
60		BUSHNELL	440805	440912	TEST	YES	CWS	SUITLAND	MEDICAL	
61		BUSHNELL	440805	440912	TEST	YES	CWS	SUITLAND	MEDICAL	
62		BUSHNELL	440912	440923	TEST	YES	CWS	SUITLAND	MEDICAL	
63		BUSHNELL	440912	440923	TEST	YES	CWS	SUITLAND	MEDICAL	
64		BUSHNELL	440831	441013	TEST	YES	CWS	SUITLAND	MEDICAL	
65		BUSHNELL	440831	441013	TEST	YES	CWS	SUITLAND	MEDICAL	
66		BUSHNELL	450518			YES	9769 TSU CWS HQ	SUITLAND	MEDICAL	
67		BUSHNELL	440226		FIELD TEST	YES		SUITLAND	MEDICAL	
68		BUSHNELL	450108	450210		YES	PG MOBILE CWS UNITK	SUITLAND	MEDICAL	
69		BUSHNELL	450202		TEST	YES	9770 CWS DET# 4 MED DIV	SUITLAND	MEDICAL	
70		BUSHNELL	450715		TEST	YES	DUGWAY	SUITLAND	MEDICAL	
71		BUSHNELL	440825	440925	TEST	YES		SUITLAND	MEDICAL	
72		BUSHNELL	440819	441117	TEST	YES	OPG MOBILE CWS UNIT	SUITLAND	MEDICAL	
73		BUSHNELL	440516		TEST	YES	169TH CML SG CO. CWS	SUITLAND	MEDICAL	
74		BUSHNELL	440609		TEST	YES	121ST CWS	SUITLAND	MEDICAL	
75		BUSHNELL	000824		TEST	YES	27 M T B CP CRT	SUITLAND	MEDICAL	
76		BUSHNELL	440831	440923	TEST	YES	9770 CWS DET#4 MED DIV OC C	SUITLAND	MEDICAL	
77		BUSHNELL	440831	440923	TEST	YES	SCW 3999 CWS	SUITLAND	MEDICAL	
78		BUSHNELL	450514		TEST	YES	9769 (TSU)CWS HQ	SUITLAND	MEDICAL	

OBS	NAME	SSNM	DOB	RANK	AGENTS	LOCATION	STATE	ZIP	PROJ	BEGR	ENDD	EXPRT	UNIT	STATUS	DOCNUM
1	A ABBOTT FREDERIC E	0919901		CAPT		SAN JUAN	PR		SAN JUAN	440615	440623				
2	A ABRAMS FRANK	0568805		CAPT		SAN JUAN	PR		SAN JUAN	440310	440325				
3	A ALAMPI DANIEL A	0446950		2/LT		SAN JUAN	PR		SAN JUAN	440322	441110				
4	A ALESSI CARLOS D	01703609		CAPT		SAN JUAN	PR		SAN JUAN	440322	441205				
5	A ALLOWAYS RICHARD X	0856217		LST LT		SAN JUAN	PR		SAN JUAN	440322	441205				
6	A ANSLEY CECAR L	01036539		LST LT		SAN JUAN	PR		SAN JUAN	450614					
7	A ARNOLD JOHN D	02043713		2ND LT		SAN JUAN	PR		SAN JUAN	440606	440727				
8	A BEAN BERNARD	01028900		LST LT		SAN JUAN	PR		SAN JUAN	440912	440920				
9	A BEALS KENNETH	0362708		CAPT		SAN JUAN	PR		SAN JUAN	440328	441109				
10	A BECKWITH JULIAN R					SAN JUAN	PR		SAN JUAN	450310					
11	A BEDFORD JOHN R	01037420		LST LT		SAN JUAN	PR		SAN JUAN	440117	450108				
12	A BEACH REGINALD			CAPT		SAN JUAN	PR		SAN JUAN	440117	441101				
13	A BEERS WILLIAM			LST LT		SAN JUAN	PR		SAN JUAN	440420	440728				
14	A BARNETT HORACE			CAPT		SAN JUAN	PR		SAN JUAN	440618	441101				
15	A BORDLEY ARTHUR			LST LT		SAN JUAN	PR		SAN JUAN	441223					
16	A BRAINARD DONALD S			1ST LT		SAN JUAN	PR		SAN JUAN	440117	441101				
17	A BRANN LEON	01037407		1ST LT		SAN JUAN	PR		SAN JUAN	440912	441007				
18	A BROWN JOSEPH F	01725400		1ST LT		SAN JUAN	PR		SAN JUAN	450421					
19	A BROWN WALTER L	01035801		1ST LT		SAN JUAN	PR		SAN JUAN	440911	441031				
20	A BOEHANAN JAMES B	0146715		LTCOL		SAN JUAN	PR		SAN JUAN	440521	441110				
21	A BALLENE ROBERT F	09708		B GEN		SAN JUAN	PR		SAN JUAN	440328	441124				
22	A CABESEN JAIME	01038344		1ST LT		SAN JUAN	PR		SAN JUAN	440328	441125				
23	A CAMPBELL WILLIAM W	0270402		CAPT		SAN JUAN	PR		SAN JUAN	441125					
24	A CHAMBERLAIN WILLIAM H	0238613		COL		SAN JUAN	PR		SAN JUAN	450510	450602				
25	A COLEMAN NATHAN W	0498015		CAPT		SAN JUAN	PR		SAN JUAN	440322	441228				
26	A COLLINS NEVILLE M	01028005		CAPT		SAN JUAN	PR		SAN JUAN	450201					
27	A COTTRILL FRED D	01039292		2ND LT		SAN JUAN	PR		SAN JUAN	440510	441207				
28	A EIKNER CLAUDE	01037381		1ST LT		SAN JUAN	PR		SAN JUAN	440627	440814				
29	A ELLIOTT LOWELL A	010712		COL		SAN JUAN	PR		SAN JUAN	440728	440811				
30	A EMERSON GEORGE A	0874648		1ST LT		SAN JUAN	PR		SAN JUAN	450320					
31	A FISHER BETHUEL	01039952		1ST LT		SAN JUAN	PR		SAN JUAN	441222					
32	A FISHER DAVID W	01036145		1ST LT		SAN JUAN	PR		SAN JUAN	440911	441031				
33	A FYFE ARTHUR W	01039353		1ST LT		SAN JUAN	PR		SAN JUAN	440319	441101				
34	A GALDSTON MORTON	051801		CAPT		SAN JUAN	PR		SAN JUAN	450307	450420				
35	A GEORGAKOPOULIS DEMETRINE	01039556		1ST LT		SAN JUAN	PR		SAN JUAN	441222					
36	A GLASEBROOK LARKIN	0488879		LT COL		SAN JUAN	PR		SAN JUAN	440120	440620				
37	A GODDARD ROY	0396219		CAPT		SAN JUAN	PR		SAN JUAN	440120	440620				
38	A GREEF IRVING P	0229690		MAJOR		SAN JUAN	PR		SAN JUAN	450325	450403				
39	A GREENBERG BEN	W2114069		CWO		SAN JUAN	PR		SAN JUAN	440220	440502				
40	A GUEST WELDON S	010377517		1ST LT		SAN JUAN	PR		SAN JUAN	440323	441101				
41	A GULL HYMIE A	01035796		CAPT		SAN JUAN	PR		SAN JUAN	441223	450601				
42	A HAAKE CHARLES G	01037523		1ST LT		SAN JUAN	PR		SAN JUAN	440310	441021				
43	A HAMWAY DANIEL S			1ST LT		SAN JUAN	PR		SAN JUAN	440420	440814				
44	A HANSEN MILTON G			2ND LT		SAN JUAN	PR		SAN JUAN	441220					
45	A HARRINGTON WILLIAM J			1ST LT		SAN JUAN	PR		SAN JUAN	440319	441021				
46	A HARRED GEORGE W			1ST LT		SAN JUAN	PR		SAN JUAN	440810	441144				
47	A HOBBS CHARLES	0562914		CAPT		SAN JUAN	PR		SAN JUAN	450418	450517				
48	A HOGAN THOMAS J			1ST LT		SAN JUAN	PR		SAN JUAN	440819	441021				
49	A HOLM JOHN D			1ST LT		SAN JUAN	PR		SAN JUAN	440418	440820				



DEPARTMENT OF THE ARMY
ADMINISTRATIVE ASSISTANT TO THE SECRETARY
WASHINGTON, D.C. 20310-0105

Col Sutter



21 May 1993

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS, LOGISTICS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE ARMY
(MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE ARMY
(RESEARCH DEVELOPMENT AND ACQUISITION)
DEPUTY CHIEF OF STAFF FOR PERSONNEL

SUBJECT: Chemical/Biological Weapons Research Programs
Using Human Test Subjects

The Deputy Secretary of Defense has requested that the Department of the Army conduct a comprehensive search for all records relating to chemical/biological weapons research programs using human test subjects (enclosure 1). This includes records on the exposure or potential exposure of humans to chemical/biological material during the research, development test, and evaluation (RDT&E) or production, transportation, storage, training and/or disposal of such material.

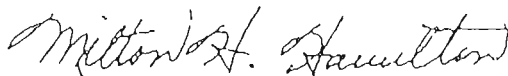
In accordance with this, please prepare a report for submission to my office containing the following information: a. the number of records located by media, and b. the estimated cost to prepare a database covering all pertinent records at each location. The information required by enclosure 1 is to be used in determining the data requirements for the database.

The number of records located by media should be listed in the following categories: 1. paper records, 2. index, punch, or aperture cards, 3. microforms or other machine-readable forms, including dosimetry badges, 4. electronic records, and 5. other.

The cost estimate for the database preparation should include the following information: 1. number of personnel required, 2. salary costs, 3. cost for preparation if contracted out, 4. estimated time to complete, and 5. workload impact on your organization.

A starting point for your search may be files on biological/chemical warfare which have been retired to Federal Records Centers and which are "frozen" by the Chemical/Biological Warfare Moratorium on Destruction of Records (enclosure 2). The Moratorium, put into effect by the National Archives and Records Administration (NARA) in the 1979/1980 time period, does not encompass all areas which fall under the Deputy Secretary's request above but does mandate the retention of many files within the biological/chemical arena. The NARA freeze code for this action is CBW.

The suspense date for this action is 10 June 1993. A negative response is required. Any questions should be addressed to my point of contact for this matter, Marc Vassanelli, who may be reached at 697-6900.



Milton B. Hamilton

Enclosures

DAAG-AMR-S (13 Jan 81) 1st Ind
SUBJECT: Microfiling of Human Volunteer Records

HQDA (DAAG-AMR-S), Wash DC 20310

4 SEP 1981

THRU: HQDA (DASQ-AOR), Wash DC 20310

Commander, US Army Medical Research & Development Command,
ATTN: SGRD-AJ, Fort Detrick, Frederick, MD 21701

TO: Commander, US Army Biomedical Laboratory, ATTN: SGRD-UV-L,
Aberdeen Proving Ground, MD 21010

1. Reference:

- a. AR 340-21, The Army Privacy Program, 27 Aug 75, with three changes.
- b. AR 340-22, The Army Micrographics Program, 21 Nov 77.
- c. Federal Property Management Regulations, Subpart 101-11.5 (Micrographics) (see Incl 5).
- d. Military Standard, MIL-STD-399A, Microform Formats, 4 Dec 1976 (see Incl 6).
- e. Military Specification, MIL-M-38748A, Microfiche; For Engineering/Technical Data, Reports, Studies and Related Data, Requirements For, 15 Aug 66 (see Incl 7).

2. Your request for a micrographics system has been evaluated and is approved as documented subject to the following:

a. Submission of necessary alterations to the system notice we perceive applies (i.e., A0914.04aDASQ), pursuant to Ch 3, above reference 1a, to specifically expand individuals covered by the system, and additional locations of applicable records.

b. Original silver halide and 4 diazo copies will be made for the following distribution:

(1) Original silver halide and 1 diazo copy of this record collection will be offered to NARS in accordance with paragraph 4-4, above reference 1b. If NARS refuses this record collection at this time, the film will be retired to the Washington National Records Center, GSA, at Suitland, MD.

(2) Two diazo copies will be furnished the Office of The Surgeon General. The Surgeon General will subsequently furnish one of these copies to The National Academy of Science for contract work purposes.

DAAG-AMR RECORD COPY

4
FOR OFFICIAL USE ONLY

4 SEP 1981
JOHN HENRY HATCHER, PhD
HQDA (DAAG-AMR-P)

DAAG-AMH-S

SUBJECT: Microfilming of Human Volunteer Records

(3) One diazo copy will be retained by the Biomedical Laboratory (proponent).

c. Distribution noted in paragraphs 2b (1) and 2b (2) above will not be made without approval of the Privacy Act Officer, HODA (DASO-AOR).

d. The paper documents will not be destroyed. Upon completion of filming, verification inspection, and quality and archival testing, the paper documents will be sent to HQDA (DAAG-AMH-D), Washington National Records Center, and the records collection broken down for filing as follows:

(1) Documents on active duty military personnel will be filed in each individual's Health Record File.

(2) Documents on reserve and retired military personnel under the jurisdiction of RCPAC will be filed in the individual Health Record File located at RCPAC.

(3) Documents on all other military personnel will be filed in the individual Health Record File at NPRC.

(4) Documents on civilians (both Federal employees and prisoners) will be retained in a special file at NPRC.

e. The breaking up of this records collection, as noted in above paragraph 2d, will have the same effect on the integrity of this records collection as destruction would. Therefore, it is imperative that the silver halide be recognized as the permanent record copy and afforded protection IAW above reference 1c.

f. The format and quality requirements will be met in accordance with standards/specifications contained in references 1d and 1e. Filming will be done in accordance with format 5, reference 1d.

g. Privacy Act Statement will be filmed in frame A-1 and the test target (the resolution test chart referred to in paragraph 2.2.2, above reference 1e) will be filmed, consistently, in either the frame immediately following the last frame used to film documents, or in the last frame on each fiche (frame G-14).

h. Quality film test samples will be submitted to HODA (DAAG-AMH-S), in accordance with paragraphs 1-21 and 3-7, above reference 1b.

i. Archival film testing will be required in accordance with paragraphs 1-11a and 1-11d, above reference 1b, as film will be retained 10 years or longer.

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DAAG-AM4-S

SUBJECT: Microfilming of Human Volunteer Records


j. Verification inspection to ensure all documents have been filmed will be performed at the Biomedical Laboratory. The custodian of a record is responsible for verification of microform quality and determining that the microform is an adequate substitute for the original record and will serve the intended purpose of the record.

3. As discussed in previous conversations, the Microfilm Production Unit at the Washington Navy Yard would provide a cost effective and secure service for microfilming these sensitive documents. Transportation of the documents for filming, return for verification inspection, and subsequent transfer to the Washington National Records Center (for refiling of the paper documents as noted in above paragraph 2d) can be accomplished utilizing the Aberdeen Proving Ground daily-round-trip courier service to HQ DARCOM, 5100 Eisenhower Avenue, Alexandria, VA. Per 27 July 81 FONECOM with Mr. Larry Kortum, HQ DARCOM Service Support Activity, AUTOVON 284-8134, the DARCOM Mailroom may be used as a pickup and delivery point. Mr. Powers, Chief, Microfilm Production Unit, Washington Navy Yard, has a pickup and delivery service for the Washington area. Mr. Kortum advised that the contact at Aberdeen Proving Ground for the courier was Ms. Sarah Blevins, Commercial 278-7821/4228.

4. MICRODIS number 0168 has been assigned and should be used on all correspondence pertaining to this request.

FOR THE ADJUTANT GENERAL:

7 Incl
Added 3 Incl
5. FPMR Subpart 101-11.5
6. MIL-STD-399A
7. MIL-M-38748A


JOHN C. RAFFERTY
Colonel, GS
Director Administrative Management

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DEPARTMENT OF THE ARMY

UNITED STATES ARMY MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE
ABERDEEN PROVING GROUND, MARYLAND 21010

REPLY TO
ATTENTION OF.

SGRD-UV-AO

14 OCT 1983

SUBJECT: Microfiche

HQDA (DAAG-AMM-S/Ellen Rivers)
Alexandria, VA 22331

As of 20 Oct 1983, all paper records available to this office relating to Human Volunteer Testing will be transferred to Washington National Record Center (WNRC) GSA at Suitland, MD. The Silver Halide and Diazo copy of the microfiche will also be located of WNRC. Two diazo copies will be sent to the Office of the Surgeon General (DASG-PSA) who will furnish a copy to the National Academy of Science. One copy will be retained at USAMRICD.

FOR THE COMMANDER:

Richard A. Kishimoto
RICHARD A. KISHIMOTO
LTC(P), MSC
Executive Officer

Memorandum

U. S. ARMY

CSM 79-385-39

DATE 25 October 1979

FILE CS 250.1 (25 Oct 79)

SUBJECT: Notification of Participants in Drug or
Chemical/Biological Agent ResearchACTION OFFICER/EXT
LTC Bradley/rc/53071 DAIG-Dmc

MEMORANDUM FOR: HEADS OF ARMY STAFF AGENCIES

1. PURPOSE. This memorandum establishes Army Staff responsibilities for review of past Army research involving possible military applications of drug or chemical/biological agents. The objective of this effort is to identify and notify those research participants who may face the risk of continuing injury. Medical examinations and other follow-up efforts will be conducted if appropriate. This program has high public, media, and Congressional interest and the commitment of the Secretary of the Army that all actions will be completed in a timely and efficient manner. It is a positive and humane program on the part of the Army, designed to properly look out for the continued well-being of individual test participants.

REFERENCES.

- a. SAGC memorandum, dated 24 September 1979, subject: Notification of Participants in Drug or Chemical/Biological Agent Research (Inclosure 2).
- b. DAIG report, dated 10 March 1976, subject: Use of Volunteers in Chemical Agent Research.
- c. HQDA report, dated 24 February 1977, subject: U.S. Army Activity in the U.S. Biological Warfare Programs.

3. DISCUSSION.

a. As indicated in referenced documents, both the Army and contractors acting on behalf of the Army conducted research with various drugs or chemical/biological agents using humans as the test subjects.

b. In the process of providing support for DOD Congressional testimony and answers to interrogatories related to continuing litigation, the Army has reviewed and consolidated known available, ~~past chemical/biological research contracts~~ and supporting documents at the Chemical Systems Laboratory (CSL), Armaments Research and Development Command, Aberdeen Proving Ground, Maryland. Past ~~biological research contracts~~ and supporting documents are maintained by elements of The Surgeon General's Medical R&D Command, Fort Detrick, Maryland. ~~Records of both chemical and biological research of this nature are~~ currently maintained by elements of the Medical R&D Command at Aberdeen (Edgewood Arsenal) and Fort Detrick.

SUBJECT: Notification of Participants in Drug or Chemical/Biological Agent Research

c. Reference a requires a medical review of those past research projects that were initiated to study possible military applications of various drugs and chemical/biological agents. Participants in those projects who are considered by medical authority to be subject to the possible risk of a continuing injury are to be notified. In the event that long-term hazards of a substance are not known, The Surgeon General (TSG) should continue to monitor research developments, and if at some future time more information makes it necessary to take some action, TSG should recommend appropriate action, including notification.

d. Reference s also recommends that further efforts be taken to consolidate, organize, and summarize records that relate to the various research programs. This action, coupled with the extensive historical information contained in references b and c, will aid greatly in the implementation of any notification/medical follow-up efforts and will also ensure that the Army is in a better position to respond to future reports and requests for information from the public, the media, etc.

e. Significant required actions resulting from reference a are outlined at Inclosure 1.

4. RESPONSIBILITIES.

a. Coordination, Analysis, and Reports Division, Management Directorate, will be OCSA point of contact for coordination and resolution of operational and policy matters and will monitor the program for the VCSA.

b. TSG will assume the lead responsibility for implementing this program with authority to task other Army Staff (ARSTAF) agencies and commands as appropriate for support.

c. Responsible ARSTAF agencies listed at Inclosure 1 will—

(1) Accomplish actions required.

(2) Coordinate with other Staff agencies as appropriate.

BY DIRECTION OF THE CHIEF OF STAFF:

2 Incl

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John R. McGivart
JOHN R. MCGIVART
Lieutenant General, GS
Director of the Army Staff


SIGNIFICANT ACTIONS

<u>Action</u>	<u>Responsible Agency</u>	<u>Projected Completion Date</u>
1. Develop necessary implementation plans in coordination with DARCOM.	TSG	1 December 1979
2. Develop and dispatch list of compounds/agents for National Academy of Sciences (NAS) review and recommendations. Request NAS to expedite evaluation of compounds for determination of risk of continuing injury and benefit or desirability of medical examinations/follow-up. Request NAS provide recommendations to TSG as individual compounds are reviewed, rather than as a total package, after review of all compounds.	TSG (task DARCOM for assistance as required)	15 January 1980
*3. Start immediately on development of centrally located/catalogued summary data on: a. All Contracts - name of contractor, contract number, substances used, dates of exposure, location of test, names or number of participants, results of testing, etc. b. Each Research Project - name of compound, why, when, and where tested, results, names/number of participants, etc. c. Each Participant - name of compound received, why, when, and where tested, dosage, results of testing, etc. Include identifying data, i.e. name, military or civilian status, rank, SSN/SSAN, unit/address (if available).	TSG (task DARCOM for assistance as required)	1 June 1980
4. After evaluation of compounds, determine those contracts in which participants may face the risk of continuing injury and draft letters of notification to appropriate contractors or TJAG review.	TSG (task DARCOM for assistance as required)	ASAP

Action	Responsible Agency	Projected Completion Date
5. Sign and dispatch letters of notification to appropriate contractors.	TAC	ASAP (as required)
6. Provide, as it becomes available, individual participant identification data to TAC for determination of last known address.	TSC (with DARCOM assistance)	ASAP (as ID data becomes available)
7. Determine last known addresses and provide to TSC.	TAC	ASAP
8. Assist TAG by providing last known address information on DA civilian test participants.	DCSPER	as required by TAG
9. After evaluation of compounds, prepare and dispatch letters of notification to appropriate individuals as addresses become available.	TSC (with TJAG and DARCOM assistance)	ASAP (as required)
10. Handle all litigation and tort claims associated with this program.	TJAG	as required
11. Recommend appropriate Army action in the event contractors fail to respond to requests for notification.	TJAG (with TSC and DARCOM assistance)	as required
12. Respond to routine inquiries concerning the necessity/requirements for and operational aspects of past non-medical drug and chemical/biological agent testing efforts.	DCSOPS (with TSC and DARCOM assistance)	as required
13. Respond to routine inquiries concerning the use of humans in testing and this notification program and task other ARSTAP agencies and DARCOM to provide input in their areas of responsibility as required.	TSC	as required

Action	Responsible Agency	Projected Completion Date
14. Process all FOIA and other requests for information received by HQDA; establish central file copies of all requests received and answered by HQDA Staff agencies, MACOMs and subordinate elements; and act as central point of contact for responding to FOIA and other requests on this subject.	TAG	15 November 1979
15. Provide technical chemical/biological expertise/assistance	DCSOPS/DCSRDA	as required
16. Coordinate all public announcements and interviews associated with this program.	CPA	as required
17. Coordinate Congressional activities and responses to Congressional inquiries and task ARSTAF agencies for support as required.	CLL	as required
18. Coordinate all notification actions and responses to inquiries with TJAG.	All	as required
19. Continue to monitor questionable compounds for long-term hazards and take notification/follow-up action as appropriate.	TSC	indefinite
20. Provide monthly progress report to OCSA with information copies to other interested agencies.	TSC (with input from other responsible ARSTAF agencies and DARCOM as required)	15th of each month for previous month
21. Be prepared to participate in IPR for VCSA, as required.	TSC TJAG TAG DCSOPS CPA DCSPER CLL	as required

* Note: Chief of Staff Memorandum 385, dated 30 June 1953, which implemented the Wilson Memorandum (26 February 1953) authorizing human testing suggests itself as the ideal cut-off date for in-house Army testing. The earliest contract effort was reportedly 1947, which should be the cut-off date for research in that area. Priority of effort should be concentrated on testing subsequent to these dates with follow-up of earlier testing, as appropriate, if identified.



DEPARTMENT OF THE ARMY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D.C. 20310

24 SEP 1979

MEMORANDUM FOR THE DIRECTOR OF THE ARMY STAFF

SUBJECT: Notification of Participants in Drug or Chemical/Biological Agent Research

On August 8, 1979, we solicited your views and those of several other Army officials concerning a program to notify participants in Army drug or chemical/biological agent research programs. We have considered the various comments received and have developed the following broad guidance.

a. The Army should review all research programs, regardless of whether conducted by the Army or on behalf of the Army by independent contractors, that were initiated to study possible military, rather than medical, applications of various drugs and chemical/biological agents. If there is reason to believe that any participants in such research programs face the risk of continuing injury, those participants should be notified of their participation and the information known today concerning the substance they received. This notification should be affected regardless of whether the individuals were fully informed volunteers at the time the research was undertaken.

b. The determination of risk of continuing injury will require a medical determination. The Surgeon General should have primary responsibility for that determination. However, he should be authorized to consult with an outside expert body such as the National Academy of Sciences when making that determination.

c. In the event that the long term hazards of a substance are not known, The Surgeon General should continue to monitor research developments, and if at some future time more information makes it necessary to take some action, The Surgeon General should recommend appropriate action, including notification.

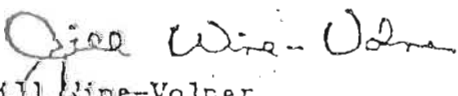
d. Apart from the decision concerning notification, The Surgeon General should be asked to consider whether medical examinations would be medically beneficial or desirable in any particular case. Again, he should be urged to consult with an appropriate outside body in arriving at his conclusion.

e. With respect to research conducted by contractors, the contractor should be notified of the information available to the Army and of the Army commitment to an appropriate notification program, and asked to undertake an effort to notify, as necessary, those participants in the contract research. Should the contractor refuse to conduct such an effort, the Army should consider whether further action is necessary or appropriate.

f. An essential preliminary to this notification program will be the development of complete information concerning the Army's past nonmedical drug and biological/chemical agent research efforts. Although the 1975 Inspector General Report represented a substantial undertaking, it appears that more needs to be done. I recommend that the Staff undertake an effort to locate, consolidate, organize and summarize those records that related to these various research programs. This effort would be similar to that which has been undertaken with respect to atmospheric nuclear weapon tests. Such an effort not only will aid greatly in the implementation of the notification program, but will ensure that the Army is in position to respond quickly and accurately to various new reports concerning its research programs. At present, we are not always fully prepared to respond to these disclosures, and unnecessary time may therefore lapse before we can ascertain the details.

The foregoing guidance is intentionally quite broad. In undertaking this notification effort, a number of details remain to be resolved, and minor issues will continue to arise. These matters should be resolved within the Staff, relying upon the sound and reasonable judgment of the appropriate staff officers. This office will of course be available to assist as necessary in resolving these matters.

I trust that you will ensure that this matter is given appropriate attention.


Jill Wine-Volber
General Counsel

SECTION FOUR

CHEMICAL WEAPONS EXPOSURE STUDY

MAJOR ISSUES

CHEMICAL WEAPONS EXPOSURE STUDY

MAJOR ISSUES

POTENTIAL COST FOR FULL DOCUMENT SEARCH FOR
COMPREHENSIVE PERSONNEL DATABASE

(Army Estimates at Attachment A)
(NPRC St. Louis Estimates Attachment B)

SENSITIVITY OF CONTENT OF ARCHIVED DOCUMENTS

MANY REFERENCE BIOLOGICAL RESEARCH
(Army Surgeon General Files at WNRC, Suitland,
many of which are still classified)

ARMY HAS JUST REPORTED AN ADDITIONAL 8500 LINEAR
FEET AT ROCKY MOUNTAIN ARSENAL THAT WE HAVE
NOT REVIEWED FOR CONTENT

FIRE AT THE NPRC IN ST. LOUIS HAS DESTROYED A
LARGE PERCENTAGE OF ARMY PERSONNEL AND MEDICAL
RECORDS FROM WWII



TAB A14

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
PERSONNEL AND READINESS

CHEMICAL WEAPONS EXPOSURE STUDY UPDATE

JULY 1993

Prepared for:

Staff & Members
House Committee on Veterans' Affairs

Prepared by:
Office of the Director, Information Resources Management
Office of the Assistant Secretary of Defense
(Personnel & Readiness)

(703) 696-8710

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OASD (P&R)

DEPARTMENT OF DEFENSE

CHEMICAL WEAPONS EXPOSURE STUDY

UPDATE FOR JULY 1993

SECTION ONE

CHEMICAL WEAPONS SITE LOCATION DATABASE

SECTION TWO

CHEMICAL WEAPONS TEST DOCUMENT REPOSITORIES

SECTION THREE

CHEMICAL WEAPONS EXPOSURE PERSONNEL DATABASE

SECTION FOUR

ATTACHMENTS

SECTION ONE

CHEMICAL WEAPONS SITE LOCATION DATABASE

SUMMARY

CHEMICAL WEAPONS EXPOSURE SITE DATABASE

The attached Site Location Database Summary was compiled by the Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC). CBIAC is under the direction of Defense Technical Information Center (DTIC).

The Database Summary includes 117 entries, some of which are duplicate due to names changes or reorganizations (example: Camp Detrick is listed, as is the current organization Fort Detrick).

The sites where most of the testing using human subjects was conducted, and where most of the records originated or are still stored are:

Edgewood Arsenal, MD

Dugway Proving Ground, UT

Naval Research Laboratory, MD

Fort Detrick, MD

Fort McClellan, AL

Sites where field testing was conducted, or where documented incidents of exposure have been found, are listed below. The sites with an asterisk denote sites that are no longer in use:

*Bushnell Field, FL

*San Jose Island, Panama (also listed as Fort Clayton)

*Camp Sibert, AL

Huntsville Arsenal, AL

*Horn Island Installation, MS

Tooele Army Depot, UT

Great Lakes Naval Training Center, IL

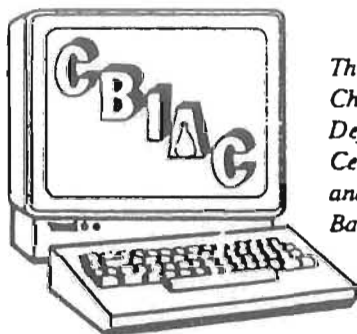
REPORT

CW

SITE LOCATION

DATABASE

SUMMARY



*The Chemical Warfare/
Chemical and Biological
Defense Information Analysis
Center is a DoD information
analysis center operated by
Battelle Memorial Institute*

SITE/INSTALL	OR NAME	AGENCY/OPERATION	CITY	STATE	COUNTRY	ACTIVITY	REMARKS	SITE SYMBOL
COLTS NECK NAVAL PIER		NAVY	EARLE	NJ	UNITED STATES	TRANSPORT		ENJ
CRANE ARMY AMMUNITION ACTIVITY		ARMY		IA	UNITED STATES	TRANSPORT		CAAA
CRANE NAVAL AMMUNITION DEPOT		NAVY	CRANE	IN	UNITED STATES	TRANSPORT		CNAD
DESERET CHEMICAL WARFARE DEPOT				UT	UNITED STATES	TRANSPORT, STORAGE		DESERET
DOV CHEMICAL COMPANY		INDUSTRIAL	PITTSBURG	CA	UNITED STATES	TRANSPORT		DOV
DUGWAY PROVING GROUND		ARMY		UT	UNITED STATES	TRANSPORT, ROT&E	H	DPO
EDGEWOOD ARSENAL		ARMY	EDGEWOOD	MD	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION, ROT&E	H	EA
EL TORO MARINE CORPS AIR STATION		MARINE CORPS		CA	UNITED STATES	TRANSPORT		TORO
ELMENDORF AIR FORCE BASE		AIR FORCE		AK	UNITED STATES	TRANSPORT		ELM
ENVIRONMENTAL TECHNOLOGIES GROUP, INC.		OTHER	BALTIMORE	MD	UNITED STATES	ROT&E		
FALLON NAVAL AIR STATION		NAVY		NY	UNITED STATES	TRANSPORT		FALL
FIRELANDS PLANT		ARMY	FOSTORIA	OH	UNITED STATES	PRODUCTION		
FORT BRAGO		ARMY		NC	UNITED STATES	TRANSPORT		BRAO
FORT CHURCHILL			RIVERS		YANKEETOWN CANADA	TRANSPORT		FCA
FORT CLAYTON		ARMY			PANAMA CANAL ZONE	TRANSPORT, ROT&E	TROPICAL TEST CENTER H	CZ
FORT DETRICK		ARMY		MD	UNITED STATES	ROT&E, SPECIAL PROJECTS	FORMERLY KNOWN AS CAMP DETRICK H	CAMP DETRICK
FORT GREELY		ARMY		AK	UNITED STATES	TRANSPORT, ROT&E	ARCTIC TEST CENTER H	GAK
FORT MCCLELLAN		ARMY	GADSDEN	AL	UNITED STATES	TRANSPORT, STORAGE, TRAINING	FORMERLY KNOWN AS CAMP DETROIT H	FUN, CAMP DETROIT
FORT RICHARDSON		ARMY		AK	UNITED STATES	TRANSPORT		FTR

SITE/INSTALLATION NAME	BRANCH/OPERATION	CITY	STATE	ACTIVITY	REMARKS	SITE SIGN
FORT STEWART	ARMY		GA	UNITED STATES	TRANSPORT	FTST
GEMET TECHNOLOGIES, INC.	OTHER	GAITHERSBURG	MD	UNITED STATES	RD&E	
GERMANY--VARIOUS SITES			GERMANY	TRANSPORT, STORAGE	RETROGRADE PROGRAM	
GOODMAN ARMY AIR FIELD	ARMY	FORT KNOX	KY	UNITED STATES	TRANSPORT	GAAF
GRANITE PEAK INSTALLATION		TUOOLE	UT	UNITED STATES	SPECIAL PROJECTS	
GREAT LAKES NAVAL TRAINING CENTER	NAVY		IL	UNITED STATES	TRAINING, RD&E	H
GULF CHEMICAL WARFARE DEPOT		HUNTSVILLE	AL	UNITED STATES	TRANSPORT, STORAGE	GCWD
HAITHORNE ARMY AMMUNITION PLANT	ARMY		NY	UNITED STATES	TRANSPORT, STORAGE	HAAP
HORN ISLAND INSTALLATION	ARMY	PASCAGOULA	MS	UNITED STATES	RD&E, SPECIAL PROJECTS, PRODUCTION, STORAGE	H
HUNTSVILLE ARSENAL	ARMY	HUNTSVILLE	AL	UNITED STATES	PRODUCTION, STORAGE	H
IIT RESEARCH INSTITUTE	OTHER	CHICAGO	IL	UNITED STATES	RD&E	
JOHNSTON ATOLL				UNITED STATES	TRANSPORT, STORAGE, DISPOSAL	JA
KANAWHA PLANT	ARMY	SOUTH CHARLESTON	WV	UNITED STATES	PRODUCTION	
KEYPORT NAVAL TORPEDO STATION	NAVY		WA	UNITED STATES	TRANSPORT	KEY
LETTERKENNY BROMANCE DEPOT	ARMY		PA	UNITED STATES	TRANSPORT	LOD
LEXINGTON-BLUE GRASS DEPOT ACTIVITY	ARMY	RICHMOND	KY	UNITED STATES	TRANSPORT, STORAGE	LBGA
LITTLE ROCK AIR FORCE BASE	AIR FORCE	LITTLE ROCK	AR	UNITED STATES	TRANSPORT	LRAB
LBS ALAMITOS NAVAL AIR STATION	NAVY	LOS ALAMITOS	CA	UNITED STATES	TRANSPORT	LALM
LUALUALEI NAVAL MAGAZINE	NAVY		HI	UNITED STATES	TRANSPORT	LLL
MACDILL ARMY AIR BASE	ARMY	TAMPA	FL	UNITED STATES	TRANSPORT	MAAB

SITE/SIGNAL	OR NAME	AGENCY/OPERATION	CITY	STATE	ACTIVITY	REMARKS	SITE SYMB
MARSHALL PLANT			NEW MARTINSVILLE	WV	UNITED STATES	PRODUCTION	
MCLESTER ARMY AMMUNITION PLANT	ARMY			OK	UNITED STATES	TRANSPORT	MMA
MIDWEST RESEARCH INSTITUTE	OTHER		KANSAS CITY	MO	UNITED STATES	ROTAE	
NSA RESEARCH CORPORATION	OTHER		EVANS CITY	PA	UNITED STATES	ROTAE	
MUSCLE SHOALS PHOSPHATE DEVELOPMENT WORKS	ARMY		MUSCLE SHOALS	AL	UNITED STATES	PRODUCTION	MSPOB
NAVAJO ARMY DEPOT	ARMY			AZ	UNITED STATES	TRANSPORT	NAZ
NAVAL MAGAZINE	NAVY			GUAM		TRANSPORT	NAVQ
NAVAL MINE DEPOT	NAVY		YORKTOWN	VA	UNITED STATES	TRANSPORT	NMD
NAVAL RESEARCH LABORATORIES	NAVY		WASHINGTON	DC	UNITED STATES	ROTAE	H NRL
NAVAL WEAPONS STATION	NAVY		CONCORD	CA	UNITED STATES	TRANSPORT	CON
NAVY AMMUNITION DEPOT-EARLE	NAVY		ELIZABETH	NJ	UNITED STATES	TRANSPORT	POINT OF DEPARTURE FOR SEA DISPOSAL OPERATION CHASE
NEW ORLEANS PORT OF ENTRY			BRAITHWAITE	LA	UNITED STATES	TRANSPORT	NOPE
NEW RIVER MARINE CORPS AIR FIELD	MARINE CORPS			NC	UNITED STATES	TRANSPORT	NRAF
NEWPORT ARMY AMMUNITION PLANT	ARMY		NEWPORT	IN	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION	NAAP
PENDLETON MUNICIPAL AIRPORT	OTHER			WA	UNITED STATES	TRANSPORT	PMMA
PHILLIPS ARMY AIR FIELD	ARMY		ABERDEEN PROVING GROUND	MD	UNITED STATES	TRANSPORT	PAAF
PINE BLUFF ARSENAL	ARMY		PINE BLUFF	AR	UNITED STATES	TRANSPORT, STORAGE, PRODUCTION	PBA
POPE AIR FORCE BASE	AIR FORCE		POPE	NC	UNITED STATES	TRANSPORT	PAFB
PUEBLO DEPOT ACTIVITY			PUEBLO	CO	UNITED STATES	TRANSPORT, STORAGE	PUDA
QUANTICO MARINE CORPS AIR FIELD	MARINE CORPS		QUANTICO	VA	UNITED STATES	TRANSPORT	QUAN

SITE/ASIA	UN NAME	BRANCH/OPERATION	CITY	STATE	ACTIVITY	REMARKS	STATE SYM
RAHWAY ARSENAL			RAHWAY	NJ	UNITED STATES	TRANSPORT	RAH
REBERS ISLAND		OTHER		NY		ROT&E	
ROCKY MOUNTAIN ARSENAL		DENVER		CO	UNITED STATES	TRANSPORT, DISPOSAL, PRODUCTION	RMA
SAN BERNADINO LOADING PLANT			SAN BERNADINO	CA	UNITED STATES	PRODUCTION	
SAN JACINTO ORDNANCE DEPOT			HOUSTON	TX	UNITED STATES	TRANSPORT	SJDD
SAN JOSE ISLAND					PANAMA CANAL ZON	ROT&E	
SAVANNA ORDNANCE DEPOT			SAVANNA	IL	UNITED STATES	TRANSPORT	SVOD
SEAL BEACH NAVAL WEAPONS STATION		NAVY		CA	UNITED STATES	TRANSPORT	SBCA
SMALL BOAT WET STORAGE BASIN		NAVY	CHARLESTON	SC	UNITED STATES	TRANSPORT	SBSB
SOUTHERN RESEARCH INSTITUTE		OTHER	BIRMINGHAM	AL	UNITED STATES	ROT&E	
SRI INTERNATIONAL		OTHER	MENLO PARK	CA	UNITED STATES	ROT&E	
ST. LOUIS PLANT		ARMY	EAST ST. LOUIS	IL	UNITED STATES	PRODUCTION	
SUFFIELD TEST CENTER			RALSTON		ALBERTA CANADA	TRANSPORT, STORAGE, ROT&E	SUF
SUNNY POINT NAVAL PIER		NAVY	SUNNY POINT	NC	UNITED STATES	TRANSPORT	SUN
THEODORE NAVAL MAGAZINE		NAVY	MOBILE	AL	UNITED STATES	TRANSPORT	THM
TOOELE ARMY DEPOT		ARMY	TOOELE	UT	UNITED STATES	TRANSPORT, STORAGE, DISPOSAL	TEAD
TRAVIS AIR FORCE BASE		AIR FORCE		CA	UNITED STATES	TRANSPORT	TAFB
TRUETECH, INC.		OTHER	RIVERHEAD	NY	UNITED STATES	ROT&E	
TULALIP BACKUP STORAGE DEPOT			TULALIP	WA	UNITED STATES	TRANSPORT	TUL
TURLOCK PLANT			TURLOCK	CA	UNITED STATES	PRODUCTION	

SITE/INSTAL	OWN NAME	OWNER/OPERATOR	CITY	STATE	CC	ACTIVITY	REMARKS	SITE SYNO
UMATILLA DEPOT ACTIVITY			HERMISTON	OR	UNITED STATES	TRANSPORT, STORAGE		UMDA
UNIVERSITY OF CHICAGO		UNIVERSITY	CHICAGO	IL	UNITED STATES	ROUTE		
UPPER KIPAPA MILITARY RESERVATION				HI	UNITED STATES	TRANSPORT		UKMR
VIGO PLANT		ARMY	TERRE HAUTE	IN	UNITED STATES	SPECIAL PROJECTS	H	
WAINWRIGHT ARMY AIR FIELD		ARMY	FORT WAINWRIGHT	AK	UNITED STATES	TRANSPORT		WAAP
WHIDNEY ISLAND NAVAL AIR STATION		NAVY		WA	UNITED STATES	TRANSPORT		SHID
WRIGHT ARMY AIR FIELD		ARMY		GA	UNITED STATES	TRANSPORT		WRAF
YUMA TEST STATION			YUMA	AZ	UNITED STATES	TRANSPORT		YTS

SECTION TWO

CHEMICAL WEAPONS TEST

DOCUMENT REPOSITORIES

OASD (P&R)

WASHINGTON NATIONAL RECORDS CENTER, SUITLAND, MD

13 BOXES OF ARMY SURGEON GENERAL FILES

OVER 1000 LINEAR FEET OF ARMY CHEMICAL CORPS RECORDS

ARCHIVIST LOCATED AND PROVIDED 690 MEDICAL CARDS FROM
MUSTARD GAS EXPERIMENTS CARRIED OUT AT ABERDEEN
PROVING GROUND, MD; BUSHNELL FIELD, FL; DUGWAY PROVING
GROUND, UT

A LIST OF OFFICERS, AND PICTORIAL HISTORY OF THE SAN JOSE
PROJECT, PANAMA, WAS ALSO LOCATED.

*(This project included testing of mustard gas
penetration of protective clothing, and through jungle
canopy/foilage.)*

Attachment A Sample of Medical Treatment Cards

OASD (P&R)

NATIONAL PERSONNEL RECORDS CENTER, ST. LOUIS, MO

EXTENSIVE COLLECTION OF PERSONNEL AND ORGANIZATIONAL
FILES FROM EARLY 1900'S TO PRESENT

RECORDS INCLUDE TECHNICAL TEST INFORMATION, CONTRACT
INFORMATION, PERSONNEL AND MEDICAL RECORDS

PERSONNEL RECORDS INCLUDE MILITARY AND CIVILIANS

U.S. ARMY PERSONNEL RECORDS 1912-60 BURNED IN 1971

U.S. AIR FORCE PERSONNEL RECORDS 1947-63 BURNED

U.S. NAVY PERSONNEL & MEDICAL RECORDS IN TACT

WWII CIVILIAN PERSONNEL RECORDS AVAILABLE BY EMPLOYING
INSTALLATION

EXTENSIVE COLLECTION (MICROFICHE) OF MORNING REPORTS

Attachment B Sample Page from Records Location Report

Attachment C Sample Documentation Found in Individual
Research & Experimentation File

OASD (P&R)

DUGWAY PROVING GROUND TECHNICAL LIBRARY

EXTENSIVE COLLECTION OF OVER 60,000 DOCUMENTS ON
CHEMICAL WARFARE CATALOGED ON CBINFONET DATABASE

OVER 10,000 DOCUMENTS HAVE BEEN IMAGED ONTO OPTICAL
DISKS

LOCATED INFORMATION ON TESTS, DATES, SITES, AND AGENTS
BUT NO PERSONNEL IDENTIFIERS

OBTAINED TWO ACCIDENT REPORTS ON CIVILIAN EMPLOYEES
EXPOSED TO CHEMICAL AGENT THROUGH INDUSTRIAL ACCIDENT

Attachment D Copy of Accident Report on Mustard Burn

OASD (P&R)

FISHER LIBRARY, ARMY CHEMICAL WEAPONS SCHOOL
FT. McCLELLAN, AL

LOCATED SOURCE DOCUMENTS USED FOR WWII REPORTS GENERATED
BY DEFENSE TECHNICAL INFORMATION CENTER AND CHEMICAL/
BIOLOGICAL INFORMATION ANALYSIS CENTER

SOURCE DOCUMENTS CITED 28,000 CIVILIAN EMPLOYEES IN
CHEMICAL WEAPONS SERVICE AT HEIGHT OF WWII

NO APPARENT PERSONNEL RECORDS OR ROSTERS

OASD (P&R)

ABERDEEN PROVING GROUND/EDGEWOOD ARSENAL, MARYLAND

ABERDEEN PROVING GROUND/EDGEWOOD ARSENAL IS REPOSITORY
FOR LARGE COLLECTION OF U.S. ARMY CHEMICAL WEAPONS
TESTING PROGRAM RECORDS

COLLECTION INCLUDES 100 LINEAR FEET OF PAPER RECORDS

7,000 SETS OF MEDICAL RECORDS ON MICROFICHE

**DEFENSE TECHNICAL INFORMATION CENTER, ALEXANDRIA, VA
CHEMICAL/BIOLOGICAL INFORMATION ANALYSIS CENTER, EDGEWOOD**

SPECIAL REPORTS PRODUCED FOR US BY CBIAC AT THE
DIRECTION OF DTIC:

CHEMICAL WEAPONS SITE LOCATION SUMMARY DATABASE

CHEMICAL WARFARE SERVICE UNITS WWII

TRANSPORT OF CHEMICAL WEAPONS 1946-1986

Attachment E Extract of Report on Chemical Warfare Service
 Units (*This information can be used to trace
 individuals assigned to units via use of
 Morning Reports*)

OASD (P&R)

NAVAL RESEARCH LABORATORY, ANACOSTIA, MD

NAVAL RESEARCH LAB HAS EXTRACTED APPROXIMATELY 2300
NAMES OF MILITARY TEST SUBJECTS FROM 11 SCIENTIFIC
NOTEBOOKS KEPT DURING 1942-45

MOST OF THESE TEST SUBJECTS CAME FROM THE NAVAL
TRAINING CENTER AT BAINBRIDGE, MD

THESE RECORDS WERE KEPT BY THE LAST NAME ONLY, IN MOST
CASES. A FEW HAVE FIRST NAME OR INITIALS. THERE WERE
NO SERVICE NUMBERS, ONLY PARTICIPANT NUMBER AND IN SOME
CASES THE NUMBER OF THE TRIAL THEY PARTICIPATED IN

Attachment F Sample of the 50 pages of names extracted
from NRL Researcher Notebooks

OASD (P&R)

UNIVERSITY OF CHICAGO LIBRARY, CHICAGO, IL

THIS RECORDS COLLECTION INCLUDES 82 BOXES FROM THE
OFFICE OF THE VICE PRESIDENT FOR SPECIAL PROJECTS
AT UNIVERSITY OF CHICAGO

IT CONTAINS RECORDS FOR THE YEARS 1940-1969

TWO BOXES HAVE BEEN TAGGED FOR POTENTIAL TEST
INFORMATION ON MUSTARD GAS TESTS

THIS COLLECTION HAS NOT BEEN REVIEWED

SECTION THREE

CHEMICAL WEAPONS EXPOSURE

PERSONNEL DATABASE

OASD (P&R)

CHEMICAL WEAPONS EXPOSURE PERSONNEL DATABASE

(MAINTAINED BY DEFENSE MANPOWER DATA CENTER)

DATABASE CONSISTS OF FOLLOWING INFORMATION FIELDS:

NAME, BRANCH OF SERVICE

SERVICE OR SOCIAL SECURITY NUMBER

AGE, RANK, OR GRADE IF CIVILIAN

AGENT EXPOSED TO (MUSTARD, LEWISITE, LSD)

PROJECT NAME, START & END DATE

EXPOSURE TYPE (CHAMBER OR FIELD TEST, ACCIDENT)

MILITARY UNIT

LOCATION OF DOCUMENTATION/RECORD

DOCUMENT/RECORD TYPE (MEDICAL, PERSONNEL)

690 NAMES HAVE BEEN ENTERED FROM MEDICAL CARDS FROM 1944-45
(BUSHNELL, EDGEWOOD ARSENAL, DUGWAY PROVING GROUND)

270 NAMES HAVE BEEN FORWARDED FROM SPECIAL COMMENDATION
ORDER 152 DATED 25 JUNE 1944

2300 NAMES FROM NAVAL RESEARCH LAB HAVE BEEN FORWARDED
FOR ENTRY INTO DATABASE (WWII MUSTARD GAS TESTS)

300 MEDICAL RECORDS HAVE BEEN LOCATED AT NPRC, ST. LOUIS
(EXPERIMENTS FROM LATE 1960'S USING LSD, CANNOBINAL,
VARIOUS HALLUCINOGENICS)

800 ADDITIONAL MEDICAL RECORDS FROM SAME TEST PERIOD HAVE
BEEN TRACED TO U.S. ARMY MICROFICED DOCUMENTS LOCATED
AT ABERDEEN PROVING GROUND (ORIGINAL MEDICAL RECORDS WERE
INTERFILED WITH PERSONNEL RECORDS IN ST. LOUIS)

3200 NAMES HAVE BEEN SENT TO DMDC FOR THE DATABASE

Attachment G Copy of Army Letter Directing Full Records
Search 1993

OBS	BRANCH	SSN	SVCNUM	DOB	AGL	RANK	AGENTS	ILOC	STATE
27	A		34925435		19	PVT	H	BUSHNELL	FL
28	A		31268130			PFC	H	BUSHNELL	FL
29	A		33805808		26		VESICANT	EDGEWOOD ARSENAL	MD
30	A		14183325		28	PVT	H	BUSHNELL	FL
31	A		19042161			T/3	CLASSIFIED	DUGWAY	UT
32	A		31457364			PVT	GAS	EDGEWOOD ARSENAL	MD
33	A		42013111		25	PVT	GAS	EDGEWOOD ARSENAL	MD
34	A		19049966			SGT	CLASSIFIED	EDGEWOOD ARSENAL	MD
35	A		6394492		26	T/8	H	BUSHNELL	FL
36	A		6394492		26	T/8	MOBILE CWS UNIT	BUSHNELL	FL
37	A		31297293		24	LST SGT	CLASSIFIED	DUGWAY	UT
38	A		31297293		24	LST SGT	OC CWS	DUGWAY	UT
39	A		39008575			T/4	CLASSIFIED	DUGWAY	UT
40	A		39008575			T/4	OC CWS	DUGWAY	UT
41	A		39277358		20	PVT	GAS	EDGEWOOD ARSENAL	MD
42	A		36481726			TEC 5	H	BUSHNELL	FL
43	A		31327872		37	PVT			
44	A		33849079		20	PVT	GAS	EDGEWOOD ARSENAL	MD
45	A		33730179			PVT	H	BUSHNELL	FL
46	A		39680713		24	PFC	CLASSIFIED	DUGWAY	UT
47	A		33203219			PVT	GAS	EDGEWOOD ARSENAL	MD
48	A		32957192		19	PVT	GAS	EDGEWOOD ARSENAL	MD
49	A		32269034		23	PFC	H VAPOR	EDGEWOOD ARSENAL	MD
50	A		32957596		19	PVT	GAS	EDGEWOOD ARSENAL	MD
51	A		34176620		27	SGT	H	BUSHNELL	FL
52	A		19052369			PFC	CLASSIFIED	DUGWAY	UT

OBS	PROJECT	BEGDATE	ENDDATE	EXPTYPE	NARRATIV	UNIT	SLOC	DOCTYPE	DOCNUM
27	BUSHNELL	441005	441207		YES		SUITLAND	MEDICAL	
28	BUSHNELL	440226	440311	FIELD TRIALS	YES		SUITLAND	MEDICAL	
29	BUSHNELL	440824		CHAMBER TEST	YES	6 M T B	SUITLAND	MEDICAL	
30	BUSHNELL	440819	441117	TRIAL TEST	YES	DPG MOBILE CWS UNIT	SUITLAND	MEDICAL	
31	BUSHNELL	450202	450411	TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
32	BUSHNELL	000824		TEST	YES	26 M T B CP GT	SUITLAND	MEDICAL	
33	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
34	BUSHNELL	440516		TEST	YES	9770 CWS EDT#4 MED DIV OC C	SUITLAND	MEDICAL	
35	BUSHNELL	440605	440925	TEST	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
36	BUSHNELL	440605	440925	TEST	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
37	BUSHNELL	440609		TEST	YES	121ST CWS	SUITLAND	MEDICAL	
38	BUSHNELL	440609		TEST	YES	121ST CWS	SUITLAND	MEDICAL	
39	BUSHNELL	441209		TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
40	BUSHNELL	441209		TEST	YES	TSU 9770 CWS DET#4 MED DIV	SUITLAND	MEDICAL	
41	BUSHNELL	440825	440923	TEST	YES	PP12 SQ200HQ	SUITLAND	MEDICAL	
42	BUSHNELL	440226	440311	TEST	YES		SUITLAND	MEDICAL	
43					YES	121	SUITLAND	MEDICAL	
44	BUSHNELL	440825	440926	TEST	YES	ENL DET 1848SUBSC	SUITLAND	MEDICAL	
45	BUSHNELL	440226	440311	FIELD TRIALS	YES		SUITLAND	MEDICAL	
46	BUSHNELL	440805		TEST	YES	SCU 3999 CWS	SUITLAND	MEDICAL	
47	BUSHNELL			TEST	YES	CP CROW 36 S T B ASFTC	SUITLAND	MEDICAL	
48	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
49	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
50	BUSHNELL	440516		TEST	YES	169TH CML SG CO CWS	SUITLAND	MEDICAL	
51	BUSHNELL	440605	440925	FIELD TRIALS	YES	125TH CHEMPROCCO	SUITLAND	MEDICAL	
52	BUSHNELL	450131	450324	TEST	YES	9770 CWS DET#4 MED DIV OC C	SUITLAND	MEDICAL	

ATTACHMENTS

- A - Sample of Medical Treatment Cards
- B - Sample Page from Records Location Report
- C - Sample Documentation Found in Individual Research and Experimentation File
- D - Copy of Accident Report on Mustard Burn
- E - Extract of Report on Chemical Warfare Service Units (*This information can be used to trace individuals assigned to units via use of Morning Reports*)
- F - Sample of the 50 pages of names extracted from NRL Researcher Notebooks
- G - Copy of Army Letter Directing Full Records Search 1993

Dugway, UT 8/44

1. **VOLUNTEER, MEDICAL DIVISION, OC, CNS**
 2. LAST NAME
 3. FIRST NAME AND INITIAL INITIAL
 4. A. S. NO. **11006252**
 5. GRADE **CDL**
 6. COMPANY **SCU**
 7. REGIMENT AND AREA OF SERVICE
 8. AGE
 9. RACE
 10. DATES
 11. SERVICE
 12. DATE OF ARRIVAL
 13. GRADE OF ARRIVAL

Date of Arrival Dugway: 5 Aug. 1944
 Date of Leaving Dugway: 12 Sept. 1944
 This man volunteered and participated in tests conducted by the Medical Division, OC, CNS at Dugway Proving Ground, Tooele, Utah, 5 Aug. - 31 Aug. 1944.
 The details of these tests are classified information, filed in the Office of the Chief, Medical Division.
 -CNS-

13. LINE OF DUTY
 14. DUTY CODE **NOT REQUIRED**
 17. ADDITIONAL DIAGNOSIS SPECIFICATIONS

No injury and no illness was produced, discharged no disease.

16. PLACE OF TREATMENT
 19. DISPOSITION
 20. DATE OF DISPOSITION
 21. NAME OF HOSPITAL
 22. NAME WITH REPORT OF U. S. S. FOR SOURCE OF

Augustine 11th Lt.
 Medical Corps, U. S. Army.

Edgewood A

1. **Volunteer, 3rd Div, OC CNS**
 2. FIRST NAME AND INITIAL INITIAL
 3. LAST NAME
 4. A. S. NO. **3582931**
 5. GRADE **Pvt. D**
 6. COMPANY **54th T.B. Co. Gt.**
 7. REGIMENT AND AREA OF SERVICE
 8. AGE **25**
 9. RACE
 10. DATES
 11. SERVICE
 12. DATE OF ARRIVAL
 13. GRADE OF ARRIVAL

Arrived EA, Md, 24 Aug.
 Departed EA, Md.

This man volunteered and participated in tests conducted by the Medical Division, OC-CNS at Edgewood Arsenal.

L.C.D. YES

13. LINE OF DUTY
 14. DUTY CODE **NOT REQUIRED**
 17. ADDITIONAL DIAGNOSIS SPECIFICATIONS

Exposed to vesicant agent in the man chamber while wearing permeable protective clothing, & gas masks.

Developed slight erythema of back & chest.

16. PLACE OF TREATMENT
 19. DISPOSITION
 20. DATE OF DISPOSITION
 21. NAME OF HOSPITAL
 22. NAME WITH REPORT OF U. S. S. FOR SOURCE OF

Julian E. Beckwith Lt.
 Medical Corps, U. S. Army.

A

011

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION
LOCATION REPORT (07)
ST. LOUIS NATIONAL PERSONNEL RECORDS CENTER (MPR-GPR)

07/19/91

RC	BEGINNING LOCATION	ENDING LOCATION	ACCESSION NUMBER	SUB GRP	VOL	SP	RSTR	C	AUTO DISP	DISPOSAL AUTHORITY	DISP DATE	SERIES DESCRIPTION	
X	V1-04-01-7-6	V1-04-01-9-1	338-78-0236	VLT	8	S	S	A	Y	AR345/220/180	M	U	ARSE REDSTONE ADM 55
X	V1-04-01-9-2	V1-04-02-1-2	338-78-0237	VLT	13	S	S	A	Y	340-18/1304/14	M	CAP	ARSE REDSTONE TECH REPT 4554
X	V1-04-02-1-3	V1-04-02-4-2	338-78-0238	VLT	18	S	S	A	Y	340-18/1304/14	M	CAP	ARSE REDSTONE TECH REPT 54
X	V1-04-02-4-3	V1-04-02-5-1	338-78-0239	VLT	5	S	S	A	Y	AR345/220/180	M	U	ARSE REDSTONE ADM 5152
X	V1-04-02-5-2	V1-04-02-5-3	338-78-0240	VLT	2	S	S	A	Y	340-18/228/01A	R	CAP	PRVG GRD WHITE SANDS HIST BKGRD 62
X	V1-04-02-5-4	V1-05-01-5-2	338-78-0241	VLT	97	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 6465
X	V1-05-01-5-3	V1-05-01-5-6	338-78-0242	VLT	4	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5361
X	V1-05-01-6-1	V1-05-01-6-4	338-78-0243	VLT	4	S	S	A	Y	340-18/228/01A	M	CAP	PRVG GRD WHITE SANDS HIST BKGRD 5159
X	V1-05-01-6-5	V1-05-02-3-6	338-78-0244	VLT	44	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 6062
X	V1-05-02-4-1	V1-05-02-4-1	338-78-0245	VLT	1	S	S	A	Y	340-18/501/01A	M	CAP	PRVG GRD WHITE SANDS INSTR 60
X	V1-05-02-4-2	V1-05-02-4-4	338-78-0246	VLT	3	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5458
X	V1-05-02-4-5	V1-06-01-5-5	338-78-0247	VLT	127	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5063
X	V1-06-01-5-6	V1-06-03-3-6	338-78-0248	VLT	109	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5163
X	V1-06-03-4-1	V1-06-03-4-3	338-78-0249	VLT	3	S	S	A	Y	AR345/210/202/11	M	CAP	PRVG GRD WHITE SANDS OPER PROG 5058
X	V1-06-03-4-4	V1-06-03-5-1	338-78-0250	VLT	4	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5154
X	V1-06-03-5-2	V1-06-03-5-3	338-78-0251	VLT	2	S	S	A	Y	340-18/1301/01A	M	CAP	PRVG GRD WHITE SANDS INSTR 5158
X	V1-06-03-5-4	V1-06-03-6-1	338-78-0252	VLT	1	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5158
X	V1-06-03-6-2	V1-06-03-6-2	338-78-0253	VLT	1	S	S	A	Y	AR345/220/180	M	U	PRVG GRD WHITE SANDS ADM 57
X	V1-06-03-6-3	V1-06-03-7-3	338-78-0254	VLT	7	S	S	A	Y	340-18/1301/01A	M	CAP	PRVG GRD WHITE SANDS INSTR 5357
X	V1-06-03-7-4	V1-06-03-7-4	338-78-0255	VLT	1	S	S	A	Y	340-18/1301/01A	M	CAP	PRVG GRD WHITE SANDS INSTR 5356
X	V1-06-03-7-5	V1-06-03-8-1	338-78-0256	VLT	3	S	S	A	Y	AR345/220/180	M	U	PRVG GRD WHITE SANDS ADM 5155
X	V1-06-03-8-2	V1-06-03-8-5	338-78-0257	VLT	4	S	S	A	Y	AR345/220/180	M	U	PRVG GRD WHITE SANDS ADM 4654
X	V1-06-03-8-6	V1-06-03-8-6	338-78-0258	VLT	1	S	S	A	Y	AR345/220/180	M	U	PRVG GRD WHITE SANDS ADM 6255
X	V1-06-03-9-1	V1-07-01-7-2	338-78-0259	VLT	50	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 4655
X	V1-07-01-7-3	V1-07-01-7-3	338-78-0260	VLT	1	S	S	A	Y	AR345/220/180	M	U	PRVG GRD WHITE SANDS ADM 4654
X	V1-07-01-7-4	V1-07-01-9-5	338-78-0261	VLT	14	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 4656
X	V1-07-02-F-1	V1-07-02-F-4	338-78-0262	VLT	4	S	S	A	Y	340-18/1304/14	M	CAP	PRVG GRD WHITE SANDS TECH REPT 5152
X	V1-07-02-F-5	V1-07-02-5-4	338-78-0263	VLT	30	S	S	A	Y	340-18/1301/01A	M	CAP	ARSE EDGEWOOD INSTR 46154
X	V1-07-02-5-5	V1-07-03-2-2	338-78-0264	VLT	40	S	S	A	Y	340-18/1301/01A	M	CAP	ARSE EDGEWOOD INSTR 5356
X	V1-07-03-2-3	V1-07-03-3-3	338-78-0265	VLT	7	S	S	A	Y	340-18/1304/14	M	CAP	ARSE ROCK ISLAND TECH REPT 5159
X	V1-07-03-3-4	V1-07-03-6-5	338-78-0266	VLT	20	S	S	A	Y	340-18/1304/14	M	CAP	HARRY DIAMOND LAB TECH REPT 4459
X	V1-07-03-6-6	V1-07-03-8-2	338-78-0267	VLT	9	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 5964
X	V1-07-03-8-3	V1-07-03-8-3	338-78-0268	VLT	1	S	S	A	Y	340-18/211/03	M	CAP	BIO LAB FT DETRICK OPER PROG 6061
X	V1-07-03-8-4	V1-07-04-F-6	338-78-0270	VLT	15	S	S	A	Y	340-18/1304/14	M	CAP	ARSE EDGEWOOD TECH REPT 6061
X	V1-07-04-1-1	V1-07-04-3-1	338-78-0271	VLT	13	S	S	A	Y	340-18/1304/14	M	CAP	ARSE EDGEWOOD TECH REPT 6355
X	V1-07-04-3-2	V1-07-04-6-2	338-78-0272	VLT	13	S	S	A	Y	340-18/1301/01A	M	CAP	ARSE EDGEWOOD INSTR 4367
X	V1-07-04-5-3	V1-07-04-7-6	338-78-0273	VLT	16	S	S	A	Y	AR345/220/180	M	U	ARSE EDGEWOOD ADM 5157
X	V1-07-04-8-1	V1-07-04-8-4	338-78-0274	VLT	4	S	S	A	Y	AR345/220/180	M	U	ARSE EDGEWOOD ADM 4863
X	V1-07-04-8-5	V1-07-04-9-4	338-78-0275	VLT	6	S	S	A	Y	340-18/502/01B	M	U	ARSE EDGEWOOD INTELLDATA 8086
X	V1-07-04-9-5	V1-08-01-1-4	338-78-0276	VLT	12	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 6266
X	V1-08-01-1-5	V1-08-01-1-6	338-78-0277	VLT	2	S	S	A	Y	340-18/501/01A	M	CAP	BIO LAB FT DETRICK INSTR 569
X	V1-08-01-2-1	V1-08-01-2-3	338-78-0278	VLT	3	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 57
X	V1-08-01-2-4	V1-08-01-2-4	338-78-0279	VLT	1	S	S	A	Y	340-18/211/03	M	CAP	BIO LAB FT DETRICK OPER PROG 62
X	V1-08-01-2-5	V1-08-01-2-5	338-78-0280	VLT	2	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 6860
X	V1-08-01-3-1	V1-08-01-3-1	338-78-0281	VLT	1	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 6860
X	V1-08-01-3-2	V1-08-01-4-3	338-78-0282	VLT	8	S	S	A	Y	340-18/1304/14	M	CAP	BIO LAB FT DETRICK TECH REPT 6660
X	V1-08-01-4-4	V1-08-01-4-5	338-78-0283	VLT	2	S	S	A	Y	340-18/211/03	M	CAP	BIO LAB FT DETRICK OPER PROG 6660
X	V1-08-01-4-6	V1-08-01-5-2	338-78-0284	VLT	3	S	S	A	Y	46/220/180	M	U	BIO LAB FT DETRICK ADM 58
X	V1-08-01-5-3	V1-08-01-7-2	338-78-0285	VLT	12	S	S	A	Y	46/220/180	M	U	BIO LAB FT DETRICK ADM 57
X	V1-08-01-7-3	V1-08-01-9-3	338-78-0286	VLT	13	S	S	A	Y	46/1304/14	M	CAP	BIO LAB FT DETRICK TECH 87

TEST SUMMARY

11C

1 RA 12 307 472
RA

NAME _____

RANK _____ S.N. _____

TYPE OF TEST

DATE

1. TP 10 Feb 19 Sept 68
2. TP 17093 (Sidel) [unclear] 20 Sept 1968
3. TP 17107 [unclear] 17 Dec 1968
4. TP-11719 - [unclear] #2551 15 Feb 1968

5. _____ SP4 5216 RA 12 207 472
Company A 75th Engineer Bn, Fort George G Meade, Maryland

6. _____ Para 2, SO #174, DA, Hqs, 75th Engineer Battalion (Const),
Fort George G. Meade, Maryland 20755, 22 August 1968.

REPORTED: 2 September 1968 RELEASED: 3 Nov 68

7. _____
8. _____

The medical records of this volunteer have been reviewed and he is hereby released from the Human Volunteer Program.

Date 30 Oct

[Signature]
Medical Officer

VX Study
PAM CL 12/27/60

VOLUNTEER'S PARTICIPATION AGREEMENT
U. S. ARMY CHEMICAL RESEARCH AND DEVELOPMENT LABORATORIES
U. S. ARMY CHEMICAL CENTER, MARYLAND

[REDACTED]

VOL #1880

NAME _____

Age _____ Race _____ Grade _____ Serial No. _____

Organization _____

Name of Nearest Relative _____

Address of Nearest Relative _____

Telephone Number of Nearest Relative _____

I, _____, have received, read and understand a document entitled, "Medical Research Volunteer Program," copy of which is annexed hereto, and that the general nature of the experiments I have volunteered to participate in have been explained from the standpoint of possible hazards to my health. It is my understanding that the experiments are so designed, based on the results of animal and previous human experimentation, that the anticipated results will justify the performance of the experiment. I understand further that experiments will be so conducted as to avoid all unnecessary physical and mental suffering and injury, and that I will be at liberty to request that the experiments be terminated at any time if in my opinion I have reached the physical or mental state where continuation of the experiments becomes undesirable.

I recognize that in the pursuit of certain experiments transitory disfigurement may occur and when such reactions seem especially likely to occur I will be so advised. I recognize, also, that under these circumstances, I must rely upon the skill and wisdom of the physician supervising the experiment to institute whatever medical or surgical measures are indicated to protect me.

There has been no coercion, element of fraud or deceit, undue moral suasion or other adverse pressure brought to bear in my volunteering for this duty. I have done so of my own free will, completely aware of all hazards, rewards and recognition involved.

DATE: 13 December 1960 WITNESS: [Signature]
SIGNED: [Signature] WITNESS: [Signature]

R

D

SDSTE-SAF

26 June 1981

MEMORANDUM FOR RECORD

SUBJECT: Mustard Agent Exposure - [REDACTED] *WB-9 Linnno Amjector*

1. This MFR has been written from the last available information as of COB 25 June 1981.

2. On Monday, 22 June 1981, at approximately 1245 hours, a surveillance group of five personnel started operations inside Building 2005 to collect 5 one liter samples of mustard using SOP SDSTE 356, dated 2 April 1981.

3. The transfer team consisted of:

- [REDACTED] Team Leader
- [REDACTED] Safety Man
- [REDACTED]
- [REDACTED]
- [REDACTED]

4. The work area for the Building 2005 operation is seen in Figure 1 with 4 workers inside Building 2005 and the safety man outside. The layout for the mustard transfer is shown in Figure 2 with the following major items present:

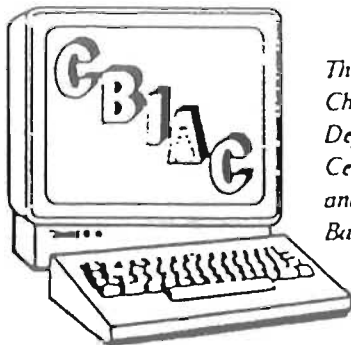
- a. The mustard ton container located on a ton container cradle. The cradle allows for rocking of the ton container and places the ton container about 24 inches above the floor.
- b. A decon container filled with STB slurry under the ton container valves.
- c. The one liter container to be filled and the ton container valve protector filled with decon under it.
- d. Two bubbler locations.
- e. A decon shuffle box for boot decon before exiting building.
- f. The agent transfer mechanism attached to the ton container. The system is similar to the unit shown in Figure 3. Figure 4 shows the schematic of the unit used. The system allowed for gravity filling and nitrogen purge.

A

REPORT **E**

SERVICE RECORDS OF CHEMICAL WARFARE SERVICE UNITS WORLD WAR II

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*The Chemical Warfare/
Chemical and Biological
Defense Information Analysis
Center is a DoD information
analysis center operated by
Batelle Memorial Institute*

Excerpts from CB-011335

APPENDIX H-1—CHEMICAL MORTAR BATTALIONS

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
1, Co A ^a	C30 Apr 31	30 Apr 31	12 Mar 42	Schofield Barracks, Hawaii	30 Apr 31	12 Mar 42	HD			24 Feb 20 C12 Mar 42	Activated as 2d Sep Cml Co 91 Cml Co (Mts)
2, Co A ^b	16 Apr 35	16 Apr 35 17 Jan 42 10 Jul 42 21 Feb 43	16 Jan 42 9 Jul 42 21 Feb 43 24 May 43	Edgewood Arsenal, Md. Ft. Bragg, N. C. Carolina Maneuver Area Cp. Pickett, Va.	8 Jun 43 10 Jul 43 15 Aug 44	5 Jul 43 14 Aug 44 26 Jul 46	NATO MTO ETO	26 Jul 46	Germany	24 Nov 43 31 Dec 44	Only Hq & Hq Co & Co A were activated in 1935. The remaining units of the bn were activated 1 Jan 42.
3	1 Jan 42	1 Jan 42 7 Apr 42 30 Jul 42 27 Oct 42	3 Apr 42 28 Jul 42 25 Oct 42 16 Apr 43	Ft. Benning, Ga. Ft. Bliss, Tex. Louisiana Maneuver Area Ft. Bliss, Tex.	28 Apr 43 10 Jul 43 15 Aug 44	10 Jul 43 15 Aug 44 2 Jan 46	NATO MTO ETO	2 Jan 46	Cp. Patrick Henry, Va.	24 Nov 43 11 Mar 45	
71	C21 Nov 44	21 Nov 44 25 Nov 44	24 Nov 44 7 Jul 45	Cp. Stewart, Ga. Cp. Shelby, Miss.	12 Jul 45	17 Jan 46	SWPA	18 Jan 46	Seattle, Wash.	20 Nov 42 30 Apr 43	Activated as 479 CA Bn (Sep) Redesignated as 479 AAA AW Bn
72	C 7 Dec 44	7 Dec 44 2 Dec 44	1 Dec 44 1 Jun 45	Ft. Leonard Wood, Mo. Cp. Shelby, Miss.	6 Jun 45	18 Apr 46	MIDPAC	18 Apr 46	Oahu, Hawaii	10 Apr 43 1 Apr 44	Activated as 560 CA Bn (Sep) Redesignated as 560 AAA AW Bn
80 ^c	30 Jun 44	30 Jun 44	15 Jan 45	Cp. Swift, Tex.	17 Jan 45	30 Jan 46	SWPA	1 Feb 46	Cp. Stoneman, Calif.	4 Mar 45	
81	25 Apr 42	24 Apr 42 4 Apr 43 7 May 43 12 Jun 43 31 Jul 43 9 Aug 43	2 Apr 43 4 May 43 10 Jun 43 31 Jul 43 9 Aug 43 14 Oct 43	Ft. D. A. Russell, Tex. Louisiana Maneuver Area Cp. Gordon Johnston, Fla. Cp. Pickett, Va. Cp. Bradford, Va. Cp. Pickett, Va.	22 Oct 43	2 Sep 45	ETO	7 Nov 45	Ft. Leonard Wood, Mo.	22 Feb 45	

M

APPENDIX H-4—CHEMICAL SMOKE GENERATOR COMPANIES

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
67	8 Jun 42	8 Jun 42 25 Nov 44	1 Aug 42 3 Apr 45	Cp. Haan, Calif. Cp. Sibert, Ala.	3 Sep 42 12 Apr 45	21 Nov 44 10 Nov 46	CZ SWPA	10 Nov 46	Philippines		
68	1 Jun 42	1 Jun 42 25 Nov 44	31 Jul 42 3 Apr 45	Cp. Haan, Calif. Cp. Sibert, Ala.	3 Sep 42 12 Apr 45	21 Nov 44 25 Jan 46	CZ SWPA	25 Jan 46	Okinawa		
69	20 Jun 42	1 Jul 42 12 Oct 42	18 Oct 42 24 Nov 42	Cp. Haan & Burbank, Calif. Cp. Edwards, Mass.	11 Dec 42 29 Jul 43 9 Sep 44	27 Jul 43 6 Sep 44 26 Nov 45	NATO MTO ETO	26 Nov 45	Cp. Patrick Henry, Va.		
70(N)	25 May 42	25 May 42	1 Sep 43	Sault Ste Marie, Mich.	25 Sep 43	8 Nov 44	SWPA	D 8 Nov 44	New Guinea		
71(N)	25 May 42	25 May 42 24 Dec 44 28 Mar 45	22 Dec 44 28 Mar 45 16 Jun 45	Edgewood Arsenal, Md. Cp. Sibert, Ala. Cp. Gordon Johnston, Fla.	27 Jun 45	25 Jan 46	SWPA	25 Jan 46	Okinawa		
72(N)	25 May 42	25 May 42 26 Oct 43 14 Apr 44 16 Jul 44	20 Oct 43 12 Apr 44 12 Jul 44 25 Jul 44	Ft. Lewis, Seattle, Wash. Cp. Sibert, Ala. Edgewood Arsenal, Md. Ft. Lewis, Wash.						25 Jul 44	1532 Engr Dump Truck Co
73(N)	1 Jun 42	1 Jun 42 11 Jun 42 8 Oct 42 28 Oct 43 29 Mar 44	11 Jun 42 8 Oct 42 22 Oct 43 28 Mar 44 31 Mar 44	Cp. Haan, Calif. Cp. S. L. Obispo, Calif. Santa Monica, Calif. Cp. Sibert, Ala. Cp. Claiborne, La.						31 Mar 44	1368 Engr Dump Truck Co
74(N)	20 Jul 42	20 Jul 42 28 Oct 43 20 Apr 44	22 Oct 43 19 Apr 44 15 Sep 44	Cp. S. L. Obispo & Bur- bank, Calif. Cp. Sibert, Ala. Cp. Gordon Johnston, Fla.	15 Sep 44	4 Apr 46	ETO	5 Apr 46	Cp. Kilmer, N. J.		

7

APPENDIX H-5—CHEMICAL COMPANIES, AIR OPERATIONS—Continued

Unit designation (1)	Date activated (2)	TRAINING			OVERSEAS SERVICE			INACTIVATION OR DISBANDMENT		CONVERSION OR REDESIGNATION	
		From (3)	To (4)	Place (5)	From (6)	To (7)	Theater (8)	Date (9)	Place (10)	Date (11)	Comments (12)
832	15 Mar 43	15 Mar 43 11 Apr 43	10 Apr 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	Macon, Ga.		
833	15 Mar 43	15 Mar 43 11 Apr 43 27 Dec 43 1 Feb 44 15 Mar 44	10 Apr 43 26 Dec 43 28 Jan 44 15 Mar 44 1 May 44	Daniel Fld, Ga. Cp. Sibert, Ala. Greenville AAB, S. C. H. Smart Aprt, Ga. Dale Marberry Fld, Fla.				D 1 May 44	Barksdale Fld, La.		
834	15 Mar 43	15 Mar 43 11 Apr 43	10 Apr 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
835	15 Mar 43	15 Mar 43 16 May 43 18 Jan 44 5 Feb 44 18 Mar 44 1 Apr 44 7 Jun 44 7 Oct 44	15 May 43 18 Jan 44 5 Feb 44 18 Mar 44 31 Mar 44 2 Jun 44 2 Oct 44 14 Oct 44	Daniel Fld, Ga. Cp. Sibert, Ala. H. Smart Aprt, Ga. Greenville AAB, S. C. H. Smart Aprt, Ga. Barksdale Fld, La. Portland AAB, Ore. Barksdale Fld, La.				D14 Oct 44	Barksdale Fld, La.		
836	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
837	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
838	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
839	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		
840	15 Mar 43	15 Mar 43 16 May 43	15 May 43 18 Dec 43	Daniel Fld, Ga. Cp. Sibert, Ala.				D20 Dec 43	H. Smart Aprt, Ga.		

E

NRL CHEMICAL WARFARE VOLUNTEERS

F

as of July 13, 1993

Aaland, [REDACTED] Dec/Jan 44]
 Abatemarco (Book # 5044) (p. 307a)
 Abernethy (Book # 2912) (exp. 23.6)
 Acosta (Book # 5641) (1006)
 Adair (Book # 5641) (1027)
 Adameit, R.A. (Book # 2912) (exp. 15.25)
 Adams (Book # 4211) (192)
 Adams (Book # 4211) (324)
 Adams (Book # 4211) (371)
 Adams (Book # 5445) (802)
 Adams (Book # 5156) (463- also book 5044)
 Adams, [Charles W.] (Book # 5156) [Mar/Apr 45]
 Adams, J.W. (Book # 5156) (625)
 Adams, [R.] (Book # 5044) (315)
 Adams, Robert E. (Book # 2912) (exp. 22.11)
 Addertion (Book # 5445) (864)
 Addleman (Book # 4211) (200)
 Adkins (Book # 5156) (764)
 Agolini (Book # 5156) (563)
 [REDACTED] s, J. (Book # 2912) (exp. 9)
 Ajagra (Book # 5445) (pg. 591- also in book 4296, exp. 24)
 Albanowski, F.J. (Book # 2912) (exp. 9)
 Alben (Book # 5044) (p. 339)
 Albertine (Book # 5641) (1007)
 Albertson (Book # 5156) (561)
 Albright (Book # 5044) (316)
 Alexander (Book # 4491) (p. 267)
 Alexander (Book # 4211) (41)
 Alexander (Book # 5641) (1121)
 Alexander (Book # 4296) (exp. 4)
 Allen (Book # 4491) (30)
 Allen, [John William] (Book # 5445) (865) [247-29-21]
 Allen, [Maurice C. Jr.] (Book # 5156) (619) [247-07-64]
 Alligood, A.T. (Book # 2912) (exp. 7)
 Allred (Book # 5156) (534)
 Alvers (Book # 5641) (1008)
 Amory, Lloyd R. (Book # 2912) (exp. 4)
 Anderson (Book # 5641) (1149)
 Anderson, Bruce O. (Book # 5156) (774- also in book 5445)
 Anderson, George W. (Book # 5156) (775- also in book 5445)
 Andrews (Book # 5641) (1185)
 Andrews (Book # 2912) (exp. 21.13)
 Andrews (Book # 4296) (exp. 8)
 Ansell (Book # 5044) (317)
 Anthony (Book # 4491) (53)

Note- The information in [] was located and inserted in 1993. Also, all records of full names newly inserted can be found in CW-116 folder (these are not in the scientific notebooks on file).

Book #4296 represents arm chamber tests

** These names were listed in scientific notebook #2931 being involved in either the treatment or cleaning of protective fabric. These names were added to this list in March 1993.



DEPARTMENT OF THE ARMY
ADMINISTRATIVE ASSISTANT TO THE SECRETARY
WASHINGTON, D.C. 20310-0105

Col Sutter

G



21 May 1993

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS, LOGISTICS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE ARMY
(MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE ARMY
(RESEARCH DEVELOPMENT AND ACQUISITION)
DEPUTY CHIEF OF STAFF FOR PERSONNEL

SUBJECT: Chemical/Biological Weapons Research Programs
Using Human Test Subjects

The Deputy Secretary of Defense has requested that the Department of the Army conduct a comprehensive search for all records relating to chemical/biological weapons research programs using human test subjects (enclosure 1). This includes records on the exposure or potential exposure of humans to chemical/biological material during the research, development test, and evaluation (RDT&E) or production, transportation, storage, training and/or disposal of such material.

In accordance with this, please prepare a report for submission to my office containing the following information: a. the number of records located by media, and b. the estimated cost to prepare a database covering all pertinent records at each location. The information required by enclosure 1 is to be used in determining the data requirements for the database.

The number of records located by media should be listed in the following categories: 1. paper records, 2. index, punch, or aperture cards, 3. microforms or other machine-readable forms, including dosimetry badges, 4. electronic records, and 5. other.

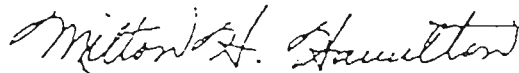
The cost estimate for the database preparation should include the following information: 1. number of personnel required, 2. salary costs, 3. cost for preparation if contracted out, 4. estimated time to complete, and 5. workload impact on your organization.

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A starting point for your search may be files on biological/chemical warfare which have been retired to Federal Records Centers and which are "frozen" by the Chemical/Biological Warfare Moratorium on Destruction of Records (enclosure 2). The Moratorium, put into effect by the National Archives and Records Administration (NARA) in the 1979/1980 time period, does not encompass all areas which fall under the Deputy Secretary's request above but does mandate the retention of many files within the biological/chemical arena. The NARA freeze code for this action is CBW.

The suspense date for this action is 10 June 1993. A negative response is required. Any questions should be addressed to my point of contact for this matter, Marc Vassanelli, who may be reached at 697-6900.



Milton E. Hamilton

Enclosures



TAB A15

SUMMARIES OF DIRECT VETERAN AND EMPLOYEE CONTACT
(Anecdotal, Original Documents Were Not Located)

Mr. A. D.

Mr. D. served in the U. S. Navy during WWII. He contacted the IRM Office in early or mid 1993 for assistance with locating a commendation he received for participating in a mustard gas chamber test at Great Lakes Naval Training Center. He was suffering from one of the listed conditions related to mustard exposure. He had requested that his personnel folder be reviewed by the National Personnel Records Center (NPRC) several times, which they did, but the commendation could not be located. When speaking to Mr. D. he stated that he was sure that the commendation had been put in his record. The IRM senior lead had a trip to NPRC scheduled for review of records relating to the chemical weapons exposure project and agreed to pull Mr. D.'s personnel jacket again and go through it personally. During the visit the personnel folder was provided and the senior lead went through the folder page by page. By flipping each 8x11 page fully over to look for double sided print, a page about 8x5 was found that was a formal Navy citation to Mr. D. for his participation in the chemical test. The non-standard size of the document sandwiched in between full size pages of a fairly large personnel folder had caused it to be missed. This valuable example of the format of some of the citations helped in conducting searches for the documents and the necessity of making a detailed review of each page. Mr. D. was able to file a compensation claim with the VA and receive his benefits.

Mr. A. S.

Mr. S. called and wrote to the IRM Office in 1993. He stated he had been exposed to mustard gas while working at Edgewood Arsenal during WWII. He requested assistance with verification of his participation. The IRM office was not able to locate any records that would assist Mr. Spadetti with a claim to the Department of Labor (DOL), which is the appropriate venue for civilian personnel to use for disability compensation claims. In 1995 the office received a further request from Mr. S. after a claim was denied by DOL. No documentation that would assist him was able to be found.

Army Veteran North Carolina

The IRM Office received a letter in 1993 from a veteran in North Carolina who was terminally ill from a mustard exposure related illness. He had filed with VA but did not have documentation to verify his claim. His personnel folder was destroyed in the fire at NPRC. The IRM Office also received a call from the North Carolina office of a member of Congress on behalf of this veteran. Both times the IRM Office had to respond that at that time there was not documentation available to verify his exposure. The

veteran's name was added to a list that was taken with the senior lead during records searches. Over a year later the veteran's name was found on a list of test personnel kept by the test site personnel or the unit commander. The senior lead called the veteran immediately upon return to the office to forward the information. The veteran had already passed away, so the information had to be forwarded to his widow.

Mr. J.B.

Mr. B's daughter called the office in 1993. Her father had worked at Hunstville Arsenal as a civilian employee. Her father had been exposed to mustard gas as the result of a clean up detail or spill. The mustard had been inadvertently mixed with water in his presence and he had been taken to the infirmary. Mr. B. was sure that there was documentation in his civilian personnel file. These files are stored at the NPRC in St. Louis in a separate building from the military records. The IRM Office called NPRC and they dispatched a records specialist to find the record. The record was located within a matter of days, less than a week. Mr. B's exposure and treatment had been documented in his personnel file. The information was provided to him via letter and he was able to successfully file a claim for workman's compensation.

Mrs. R. F.

Mrs. F. contacted the office in 1993. She had been employed in a civilian capacity at the Army Materiel Command, Building T7, located off the George Washington Parkway near National Airport. An area known as Gravelly Point. Mrs. F. believed she had been exposed to some kind of agent released into the air and that it was responsible for her respiratory illness. Even though there was some documentation of release of test agents (globigii) in aerosol form at National Airport, and other public locations, during the late 60's, the IRM Office was not able to provide Mrs. F. with sufficient documentation to support a successful claim with DOL. Mrs. F. kept in contact with the IRM Office as late as 2004.

Navy Veteran

A Navy veteran of WWII wrote or called the IRM Office in 1993 or 1994. He stated he had participated in chemical weapons testing while stationed near Long Beach outside of New York City. Review of the veteran's personnel record verified that he had been at a Naval activity outside of New York City, he was a guest at the Navy Brig at Harts Island. Further search found that there were tests conducted during the time frame of his stay. Information was made available to assist him with his compensation claim. This inquiry assisted DoD in locating Harts Island as a test site.



TAB A16

**DOD/VA NON-MEDICAL BENEFITS
TASK FORCE
OCTOBER 27, 1993
BRIEFING BOOK**

DoD/VA NON-MEDICAL BENEFITS TASK FORCE MEETING

2:00 P.M. 27 OCTOBER 1993

DEPARTMENT OF VETERANS' AFFAIRS - 801 I STREET, NW - ROOM 808

BRIEFING BOOK CONTENTS

- SECTION ONE* LIST OF MEMBERS & TASK FORCE CHARTER
- SECTION TWO* MINUTES FROM JULY 1992 TASK FORCE MEETING
- SECTION THREE* SUMMARY OF DOD/VA SHARING PROJECTS
- SECTION FOUR* MEDICAL RECORDS TRANSFER TO VETERANS' AFFAIRS
- SECTION FIVE* SEPARATION PHYSICAL EXAMINATIONS
- SECTION SIX* ENVIRONMENTAL HEALTH ISSUES IN *DESERT STORM*
- SECTION SEVEN* CHEMICAL WEAPONS EXPOSURE STUDY STATUS

DOD/VA NON-MEDICAL BENEFITS TASK FORCE

DoD Members

Mr. Edwin Dorn, Assistant Secretary of Defense
Personnel and Readiness

Ms. Deborah Lee, Assistant Secretary of Defense
Reserve Affairs

Dr. Edward Martin, Assistant Secretary of Defense
Health Affairs (Acting)

Mr. William Clark, Assistant Secretary of the Army
Manpower and Reserve Affairs (Acting)

Ms. Dorothy Meletzke, Assistant Secretary of the Navy
Manpower and Reserve Affairs (Acting)

Ms. Judy Miller, Assistant Secretary of the Air Force
Manpower, Reserve Affairs, Installation and Environment (Acting)

VA Members

Mr. John Vogel, Under Secretary for Benefits
Department of Veterans Affairs

Mr. J. Gary Hickman, Director
Compensation and Pension Service

Mr. Thomas R. Wagner, Director
Administrative Staff

Executive Secretaries

Ms. Norma St. Claire, Department of Defense
Director, Information Resources Management

Mr. William Stinger, Department of Veterans Affairs
Director of Programs and Planning

**DEPARTMENT OF DEFENSE/DEPARTMENT OF VETERANS AFFAIRS
TASK FORCE ON NON-MEDICAL BENEFITS**

CHARTER

This charter officially establishes the Department of Defense (DoD) and Department of Veterans Affairs (DVA) Task Force on Non-Medical Benefits. The main function of the task force is to advise the Secretaries of Defense and Veterans Affairs on issues concerning the current and future delivery of benefits and entitlements to service members, veterans and the families of service members and veterans.

RESPONSIBILITIES: The DoD/DVA Task Force on Non-Medical Benefits is an independent Task Force responsible for developing specific recommendations on DoD/DVA policy and procedures regarding the delivery of benefits and entitlements. The Task Force will bring together representatives from other offices within their Departments and address specific issues as appropriate.

CHAIRMANSHIP: The chairmanship of the Task Force will rotate between the Assistant Secretary of Defense (Force Management and Personnel) and the Chief Benefits Director of the DVA. In General, the chair will rotate for each regularly scheduled meeting. The Chair will be authorized to assign tasks and responsibilities and to form work groups to address specific issues.

MEMBERSHIP: Task force members will include individuals designated by each Chair, including:

- one representative from the Office of the Assistant Secretary of Defense (Reserve Affairs); and
- one representative from each of the DoD Military Departments.

In the absence of the member an alternate representative empowered to act with the same authority as the primary member should be in attendance.

EXECUTIVE SECRETARIES: The Assistant Secretary of Defense (Force Management and Personnel) and the Chief Benefits Director shall appoint Executive Secretaries from their respective organizations to jointly share responsibility for:

- the implementation of task force directives
- the assignment of work group activities
- the coordination of new issues and/or initiatives via position papers
- the minutes of the task force meeting

-the distribution of reports, minutes, and such other matters as required

-the scheduling of meetings and preparation of the agenda

ESTABLISHMENT OF WORK GROUPS: Work groups may be established to address specific issues. Work groups may be composed of members of the Task Force or appointed representatives from outside. Work groups will present progress reports, analyses, and findings and recommendations to the Task Force through the Executive Secretaries for consideration and/or action. The responsibilities of work group leaders will be assigned by the Chair.

MEETINGS: The Task Force will meet on a quarterly basis or at the call of one of the Chairs.

REPORTS/BRIEFINGS: The Executive Secretaries will prepare and forward quarterly status reports to the Chair for submission to the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs. The Status reports will include summaries of Task Force meetings, descriptions of specific issues under study, and descriptions of initiatives underway. If a briefing on matters addressed by the Task Force is required, the Chair will act as Task Force spokesperson.

11/23

11/16

**DOD/VA NON-MEDICAL BENEFITS TASK FORCE
MEETING
OCTOBER 27, 1993
SUMMARY MINUTES**

A16

**DOD/VA NON-MEDICAL BENEFITS TASK FORCE MEETING
OCTOBER 27, 1993
SUMMARY MINUTES**

Mr. R. J. Vogel, Deputy Under Secretary for Benefits, VA, began the meeting by welcoming the participants and pointing out Secretary Brown's interest in the work of the Task Force. He spoke of the joint projects which are successfully underway and expressed his desire to continue to build upon these successes.

Mr. Ed Dorn, Assistant Secretary of Defense for Personnel and Readiness, DoD, remarked how pleased he was to see the two Departments working together to build consensus on issues of mutual concern.

A discussion of the agenda followed:

- ◆ Service Medical Records Transfer-Background information about the origins of the project was presented. Historically, VA had difficulty acquiring service medical records (SMR's) timely in an attempt to serve veterans filing claims for service connected compensation benefits. In order to expedite the process, DoD/VA entered into a demonstration project. The project would be used to evaluate the utility of transferring SMR's directly to VA upon a service member's separation from service.

Army agreed to test the feasibility of transferring SMR's to VA automatically upon a service member's separation. Procedures were established for the routine transfer of SMR's from Army transition points to VA's Service Medical Record Center (SMRC), St. Louis, MO. Also, procedures were established to test the VA's ability to retrieve and transmit SMR's back to the Army in the event of mobilization. The first SMR's were transferred to VA on October 16, 1992.

A test of VA's ability to retrieve and transmit SMR's back to the Army was conducted during September 8, 9, and 10, 1993. There were three parts to the test: Part I-Reconciliation; Part II-Mobilization; and, Part III-Routine Peacetime Request. All three parts of the test were concluded successfully. See Attachment A.

The Task Force agreed to the following recommendations:

1. Make the Army transfer of SMR's to VA a permanent practice. Establish policy directives to that end.
2. Task the working group to develop procedures for the transfer of the Navy's SMR's.
3. Begin transferring Navy's SMR's to VA by January 15, 1994.

4. Task the working group to develop procedures for the transfer of the Air Force's SMR's.
5. VA would like to begin receipt of the Air Force's SMR's no later than January 30, 1994.

DoD chooses to adhere to the original agreement which called for a phased-in approach to the transfer of SMR's. In the instant case, the agreement calls for the Air Force to transfer SMR's to VA six months after the Navy begins SMR's transfer. This means the Air Force SMR's transfer would occur in June 1994.

VA believes the procedures currently in-place for the Army SMR's and successfully tested demonstrate VA's ability to manage SMR's. VA's SMRC, St. Louis, MO. moved to expanded quarters in October 1993 and will easily accommodate the Air Force's SMR's.

Further, VA views the transfer of the Air Force's SMR's as part of their focus on customer satisfaction. VA wants all service members to have equal access to their services.

VA requests DoD to reconsider the original agreement to afford the Air Force the opportunity to accelerate the SMR's transfer process.

- ◆ Separation Physical Examinations-DoD proposes a uniform policy for all military services calling for each separating service member to undergo a medical interview prior to separation to identify any complaints, illnesses, or injuries. If the interview identifies condition(s) requiring further medical evaluation, or upon a separatee's request, a physical examination will be given.

VA wants all separating service members to undergo a separation physical examination. VA needs these physical examinations as evidence in the event the separating service member files a claim for service connected compensation benefits.

The Task Force agreed to the following recommendations:

1. Task the working group to develop a comprehensive set of data for the purpose of determining whether a military population exists which would benefit from a uniform policy requiring mandatory separation physical examinations.
2. Task the working group to further analyze the data regarding the sufficiency of separation physical examination. Specifically, whether a benefit could be realized from the introduction of VA's physical examination protocol into the culture of DoD health organizations.

DoD believes their uniform policy proposal will satisfy VA's needs. VA does not share that opinion. Further, DoD will work with VA to accommodate VA's examination protocol where appropriate.

- ◆ **Environmental Health Issues/Persian Gulf Veterans**-contained two issues for discussion: 1) Persian Gulf Syndrome; and, 2) Chemical Agent Resistant Coating.

Discussion focused on attempts to insure that the Departments were cooperating in the research and investigation into the complaints and illnesses which are being labeled as Persian Gulf Syndrome.

Congressmen Kennedy and Evans were requesting a joint DoD/VA hearing into the issues associated with the health concerns of Persian Gulf War veterans. A hearing set for Tuesday, November 2, 1993 was canceled.

The members were interested in the VA's receipt of approximately 1260 claims for service connected compensation benefits from veterans claiming exposure to environmental agents. VA granted service connected benefits in 65 instances. These veterans served during the Persian Gulf War period, but not necessarily in the Persian Gulf. The granting of service connected benefits in the 65 instances is not necessarily associated with an environmental agent. For example, if a veteran claims a skin condition, and the service medical records indicate the condition did not exist at the time of entry on active duty but did at separation, service connected benefits are granted as the skin condition occurred during service.

VA is seeking information from DoD about the use of Chemical Agent Resistant Coating (CARC). A number of veterans claim their medical problems resulted from the use of CARC. VA is interested in the units involved along with all the information DoD can provide surrounding this issue.

The Task Force agreed to the following recommendation:

That DoD/VA maintain communication channels to continue to participate in working groups pursuing the health issues associated with the Persian Gulf War.

- ◆ **Loan Guaranty**-VA is concerned that military base closings and downsizing will put at risk those members having guaranteed VA home loans. In a cooperative joint venture, DoD/VA are working together to identify active duty service members having VA guaranteed home loans. VA will contact these individuals to offer counseling and alternative solutions to prevent service members from becoming delinquent in their

loans and/or resulting foreclosure.

Members were very pleased with this approach. However, members believe that civilian employees of the DoD having guaranteed home loans would be at greater risk for delinquency and/or foreclosure. They encourage DoD/VA to work together to identify the civilian employees at risk.

The Task Force agreed to the following recommendation:

That DoD/VA continue to work together to identify the active duty service members at risk for delinquency and/or foreclosure and to expand the mission to include civilian employees also at risk.

- ◆ Mustard Gas and Lewisite-This issue affects WWII veterans and is primarily centered on the access to records. Discussion concerned VA's ability to access DoD records to process pending claims for service connected compensation benefits as a result of exposure to Mustard Gas and Lewisite.

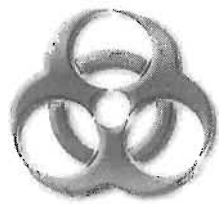
The Task Force agreed to the following recommendation:

Task the Chemical Weapons Exposure Task Force to work with VA representatives to develop administrative procedures to institutionalize a process for searching for and identifying records associated with the testing of Mustard Gas and Lewisite.

- ◆ Electronic Transfer of Data-VA is receiving data from Defense Manpower Data Center (DMDC) for all active duty military. VA plans to update and/or establish records contained in its automated Beneficiary Index Records Locator System (BIRLS). BIRLS is used by VA to establish eligibility to certain entitlements. VA anticipates these data exchanges will eventually lead to the elimination of paper exchanges between the two Departments.

The Task Force agreed to the following recommendation:

The data exchanges continue and opportunities for expansion be explored and acted upon.



TAB A17

CHEMICAL WEAPONS EXPOSURE STUDY

ISSUE

During and after World War II, the Department of Defense conducted studies of chemical weapons, using military personnel as test subjects. We are now attempting to identify test sites and individuals who were exposed to hazardous chemical agents. A DoD Chemical Weapons Exposure Study Task Force is working with representatives from the VA to develop a data base of sites and individuals that can be used to ensure appropriate benefits are available. DoD members of the task force are listed at Tab A. We are constructing a data base of individuals exposed as we find references in files and through self-report.

BACKGROUND

- * January, 1993, the National Academy of Sciences released Veterans at Risk: The Health Effects of Mustard Gas and Lewisite. The GAO released a report on the subject in February.
- * January 22, 1993, Representative Sonny Montgomery wrote to SecDef requesting declassification of appropriate information and identification of test sites and individuals exposed. (Tab B)
- * February 19, 1993, President Clinton wrote to Representative Glen Browder that he had directed both DoD and VA to expedite the process of locating, treating and providing other benefits to individuals exposed. (Tab C)
- * March 9, 1993, DepSecDef signed a memorandum declassifying all personnel and safety related information on testing through 1968, and releasing individuals from any oaths of secrecy. The Chemical Weapons Exposure Task Force was created by the memorandum and the first meeting was held April 12. (DepSecDef memorandum to Department heads and letter to Representative Montgomery at Tab D.)
- * March 11, 1993, Representative Montgomery wrote to DepSecDef commending DoD for rapid response to this critical issue. (Tab E)
- * July, 1993, P&R staff briefed Congressional staffers on status of effort.

CURRENT ISSUES

- * Construction of the personnel data base has been hampered by: the geographic dispersion of historical records and files; interfiling of medical or research records within personnel records with no index or cross-reference; and the unavailability of a large number of personnel records destroyed in the fire in the early 70's at the National Personnel Records Center in St Louis. A list of sites visited and scheduled for visits is at Tab F.

Attachments:

TAB A--DoD Members of Chemical Weapons Exposure Study Task Force

TAB B--Representative Montgomery Letter, January, 1993

TAB C--President Clinton Letter, February, 1993

TAB D--DepSecDef Letter and Memorandum, March 9, 1993

TAB E--Representative Montgomery Letter, March, 1993

TAB F--List of sites visited and scheduled for visit

CHEMICAL WEAPONS STUDY TRAVEL SCHEDULE

1ST QUARTER FY-94

NOV 1-3 DUGWAY PROVING GROUND
REVIEW ADDITIONAL PERSONNEL RECORDS ON CHEMICAL AND
BIOLOGICAL TESTING

HAMED/TIDWELL

NOV 8-10 EDGEWOOD ARSENAL
REVIEW 100 LINEAR FEET PAPER, 7000 SETS MICROFICHE, DATABASE
OF 2000 RECORDS

HAMED/HANSEN

NOV 15-19 ROCKY MOUNTAIN ARSENAL, COLORADO
REVIEW 6,000 REELS MICROFILM, 23,000 SCANNED DOCUMENTS

HAMED/HANSEN/HAKENSON

DEC 6-9 CHEMICAL CENTER & CHEMCORPS MUSEUM, ANNISTON, AL
REVIEW 735 FEET PAPER, BOOKS, AND STUDY MANUALS

HAMED/HANSEN/HAKENSON



TAB A18



PERSONNEL AND
READINESS

ASSISTANT SECRETARY OF DEFENSE

4000 DEFENSE PENTAGON
WASHINGTON DC 20301-4000



12/30/93

MEMORANDUM FOR THE SPECIAL ASSISTANT

SUBJECT: Radiation Experiments

I just met with:

- o LTG Chuck Domini, Director of Army Staff
- o LTG Alcide LaNoue, Army Surgeon General
- o MG Bob Buehe, Deputy AF Surgeon General
- o John Birely of Harold Smith's Shop (Atomic Energy)
- o RA Harold Koenig, DASD in Health Affairs
- o RA Richard Ridenour, Navy Deputy Surgeon General

Here's what's been happening:

1. Deutch asked Harold Smith to be OSD point person and our liaison to the Energy Department's Assistant Secretary for Environment, Safety and Health -- Tara O'Toole. Smith is to assemble all the information we have on DoD's radiation experiments on humans and channel it to DoE. Secretary O'Leary has appointed a panel, chaired by Professor Ruth Baden of Johns Hopkins, to review the information on radiation exposures.

2. Army just assembled a team, headed by the Surgeon General, to review all information on Army experiments. No substantive information is available yet; Domini and LaNoue hope to have a detailed plan in place early next week.

3. Navy expects to follow the Army's pattern, but hasn't started to organize yet.

4. Air Force, in response to Senator Murkowski's request of several months ago, already has reviewed its records and found only one instance of experimentation -- Eskimos given doses of Iodine 131 in an effort to learn about thyroid activity in men exposed to cold. AF claims that the exposures were well within dosage limits and that the only moral/ethical issue is whether the Eskimos gave informed consent. We're doublechecking on how thoroughgoing the AF records search was.

Here are the next steps agreed to:

1. Army will provide information on the human experimentation standards in place during the 1950s, versus the 1990s.

2. We decided that the Service reviews will focus on radiation experiments. As you know, however, there's more out there -- experiments involving various types of drugs, chemical exposures and so on. A decision needs to be made about how/when/whether to develop all this information.

3. Early next week, the Army and other services will have developed their plans for identifying their experiments. Information developed by the services will be formatted as follows:

- o name of experiment
- o number of participants
- o description of research
- o effects on participants, including follow-up studies
- o whether informed consent was given

4. All media inquiries will be referred to OSD/Public Affairs.

Lingering Questions:

1. What other agencies may have been involved in experimentation, in addition to DoE and DoD? Candidates include Agriculture and HHS (NIH). We don't know whether Energy is in touch with those agencies.

2. Service searches may reveal experiments conducted by private contractors. We are concerned, however, that information about these experiments may not be readily available; much may have been destroyed in the interest of security.

Bottom Line:

Definitive substantive answers may be weeks in coming. This is particularly true of the Army, which appears to have done the lion's share of the research. **At this point, we can talk about our process for uncovering information, but are not able to reveal substance; it's just too soon**

Question:

Shall we continue the arrangement Deutch suggested -- with Harold Smith in the lead and me providing support? I'm altogether amenable to that.

A large, stylized handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

*Info provided
verbally to SG
11 May 93
JMM*

*File 9-2
Rlw*

5 May 93

MEMORANDUM FOR SGP *B - memo on informed consent signed - p*
SGI
SG *8 11 May*

SUBJECT: Changes (**bold type**) to 4 May 93 Memo on Hypothermic Research Performed at the Arctic Aeromedical Laboratory (AAL) in the 1950s - INFORMATION MEMORANDUM

In response to SGI's request for additional information on subject research (Atch 1) we contacted personnel at Armstrong Laboratory (AL/CFTO). They faxed excerpts of the data contained in an 84-page technical report of this research (Atch 2). A copy of the full report (Technical Report No. 57-36) was faxed after receipt of the excerpts and reviewed on 5 May 93.

The study was initiated in 1955 and completed in 1957 at the Arctic Aeromedical Laboratory (AAL), Ladd AFB, Fairbanks, Alaska. The purpose was to assess the role of the thyroid in man relative to cold acclimatization during normal arctic living or operations and during simulated emergency survival in the cold. Radioactive iodine-131 (I-131) thyroid uptake was used as the indicator of thyroid activity. I-131 was authorized to the AAL by the Atomic Energy Commission (AEC), License No. 46-50-1. The License authorized a total of 2.5 millicuries of I-131 for Iodine uptake in humans before and after cold exposure. The procedures consisted of ingestion of pre-measured capsules containing up to 65 microcuries of I-131 (Atch 2).

The quantities of I-131 used in this study were in use at the time for medical diagnoses of thyroid function. For example, a maximum dose of 65 microcuries of I-131, which concentrates in the thyroid of normal persons, would have delivered a radiation dose of about 120 rems to the thyroid. This quantity of I-131 is well below that required to produce any measurable effect. Ten millicuries of I-131 is currently used in the treatment of Grave's Disease. This dose is several hundred times greater than those used in the AAL study.

The effects of ionizing radiation on the thyroid have been examined by many international and national scientific bodies. Recently, the National Academy of Sciences' (NAS) Committee on the Biological Effects of Ionizing Radiation concluded in its BEIR V Report (Atch 3), that studies of persons who received diagnostic doses of I-131 do not support a significant increased risk

Handwritten notes on left margin:
I-131
6/2/93

HQ AFMOA/SGPT Coordination:
Col Merritt TDX
Lt Col Brown REB 5 May 93
TSgt Williams HW 5 May 93
Mrs. Castro _____

SEPAK Cont 3
DIR Topline
DEP JMM
EXEC JMM
ADMIN 5 May
SEC 11 May 93

of thyroid cancer. The doses used in the AAL study are well within the range reviewed by the NAS.

We conclude the tests performed on the AAL subjects were common to medical diagnostic procedures at that time and would not be expected to cause adverse health effects.



DANIEL R. BROWN, Lt Col, USAF, BSC
Research Programs Officer
Air Force Medical Operations Agency
Office of the Surgeon General

Attachment(s)

1. SGI Request, w/Atchs
2. Technical Report 57-36 (Extracts)
3. BEIR V Report

MEMORANDUM FOR SGP

16 December 1993

SG
IN TURN12/21/93
for 23 Dec

FROM: HQ AFMOA/SGPT


SUBJECT: Arctic Aeromedical Laboratory "Thyroid" Study - ACTION
MEMORANDUM

The FY 94 Defense Appropriations bill (Atch 2), contains a requirement to conduct an independent study on a research project performed at Ladd AFB prior to 1957. The research project entitled "Thyroid Activity in Men Exposed to Cold" was conducted by Dr. Kaare Rodal while he was Director of Research at the Arctic Aeromedical Laboratory, Ladd AFB, Alaska. Last Spring, we answered a number of questions on this research for Senator Murkowski's staff (Atch 3) and provided a copy of the study results (Technical Report 57-36).

Senator Murkowski subsequently proposed an amendment to the FY 94 Defense Authorization Act (Atch 4) to perform and fund a study to answer additional questions he had concerning this research project. Senator Murkowski originally proposed an appropriation of \$150,000 to conduct the study. While the requirement for the report was included in the final bill, the authorization was not. The House receded with an amendment that would allow the SECDEF to identify the source of funds necessary for the study (Atch 5). The question to be resolved is, who will fund this study? The original research was conducted under the RDT&E program and Brooks AFB retains the technical reports. It seems most appropriate to use MFP 6 funds.

I was contacted on 13 Dec 93 by Col Sal Cirone from ASD/HA concerning the Air Force's position on this study. I told him General Sloan would make the decision on whether this study is funded and by whom. ASD/HA agreed that the language of the bill would allow the study to be funded by program 6.

Recommendation: Lt Gen Sloan sign a letter (Atch 1) to Maj Gen G. Anderson requesting HSC contract for and fund this study.



GERALD J. MERRITT, Colonel, USAF, BSC
Chief, Clin Investig & Life Sci Div
Air Force Medical Operations Agency
Office of the Surgeon General

Attachments:

1. Proposed HQ/SG ltr to HSC/CC
2. Section 736, FY 94 Defense Authorizations Bill
3. HQ AFMOA/SGPT Memo 5 May 93 wo/atchs
4. Senator Murkowski's original amendment
5. FY 94 Defense Authorizations Conference Report

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE



FROM: HQ USAF/SG
170 Luke Avenue, Suite 400
Bolling AFB DC 20332-5113

23 DEC 1993

SUBJ: Arctic Aeromedical Laboratory Study

TO: HSC/CC

1. The FY 94 Defense Appropriations bill (Atch 1), contains a requirement to conduct an independent study on a research project performed at Ladd AFB prior to 1957. The research project entitled "Thyroid Activity in Men Exposed to Cold" was conducted by Dr. Kaare Rodahl when he was Director of Research at the Arctic Aeromedical Laboratory, Ladd AFB, Alaska.

2. Senator Murkowski originally proposed an appropriation of \$150,000 to conduct the study. While the requirement for the report was included in the final bill, the authorization was not. The House receded with an amendment that would allow the SECDEF to identify the source of funds necessary for the study (Atch 2). Since the original research project was conducted as a RDT&E effort, I am requesting that HSC contract for and fund this study.

3. The study should be conducted by the Institute of Medicine of the National Academy of Sciences or a similar organization. The study should consider the following:


a. Whether the series of medical studies were conducted in accordance with generally accepted guidelines for the use of human participants in medical experimentation.

b. Whether Iodine 131 dosages in the medical studies were administered in accordance with radiation exposure standards generally accepted as of 1957 and with radiation exposure standards generally accepted as of 1993.

c. The guidelines that should have been followed in the conduct of the medical studies, including guidelines regarding notification of participants about any possible risks.

d. Whether subsequent studies of the participants should have been provided for and conducted to determine whether any participants suffered long term ill effects of the administration of Iodine 131 and, in the case of such ill effects, needed medical care for such effects.

4. My POC for this matter is Colonel Gerald J. Merritt, DSN 297-5078.


ALEXANDER M. SLOAN
Lieutenant General, USAF, MC
Surgeon General

2 Atch
1. Section 736, FY 94 Defense
Authorizations Bill
2. FY 94 Defense Authorizations
Conference Report, Section 736