

GAO

United States General Accounting Office

Report to the Chairman, Committee on
Governmental Affairs, U.S. Senate

August 1990

**CHEMICAL
WARFARE**

**DOD's Reporting of Its
Chemical and
Biological Research**



RELEASED

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549109

GAO/NSIAD-90-102



United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-238363

August 2, 1990

The Honorable John Glenn
Chairman, Committee on
Governmental Affairs
United States Senate

Dear Mr. Chairman:

You asked us to assess the Department of Defense's (DOD) reporting of its chemical warfare and biological defense research programs for accuracy and completeness. The threat of worldwide chemical/biological proliferation has spurred numerous hearings and legislative efforts to more effectively control chemical warfare and biological defense activities. To assist the Congress in its oversight role, DOD is required to prepare different reports on the subject. This report discusses three DOD reporting documents for chemical warfare and biological defense research programs and suggests ways to improve reporting.

Results in Brief

Our review indicated that DOD's reports are generally accurate and consistent with one another and comply with the requirement that DOD identify the amount, purpose, and necessity for each expenditure. DOD's annual report of biological and chemical research program obligations does not, however, describe intermediate or overall program goals and objectives or set the accomplishments in the perspective of a broader purpose. Even though not required, we believe that such information is necessary because, without a specialized scientific background, having only details on projects does not provide enough information for most readers to know whether or not progress is being made toward the objectives of the program or the relative importance of the results being reported.

Background

The Department of the Army manages DOD's chemical warfare and biological defense research programs. The chemical warfare part of the program involves research in both offensive and defensive measures, and is targeted towards developing protective clothing and equipment, techniques to identify and detect chemical weapons that hostile forces might employ, decontamination methods, and medical treatments. The biological part of the program is restricted by national policy and the terms of the 1972 Biological Weapons Convention to only defensive research. The goals of the Biological Defense Research Program are to

accomplishments in the context of either intermediate or overall program goals. While this information is not required by law, it would provide a clearer picture of overall program intent, progress, and associated obligations.

The U.S. annual report to the United Nations on biological defense research includes data on research facilities performing biological research and published scientific papers from civilian agencies, such as the Center for Infectious Disease of the Centers for Disease Control, but contains little information from the military community on what it has published. DOD considers its biological research to be open and, generally, unclassified, and it encourages the exchange of scientific research information. According to DOD and Arms Control and Disarmament Agency officials, a list of U.S. Army Medical Research Institute of Infectious Disease publications and presentations has been included in the April 1990 U.S. submission to the United Nations.

Conclusions and Recommendation

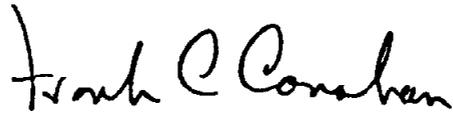
DOD's reporting on chemical warfare and biological defense research is generally accurate and consistent to ensure compliance with reporting requirements. However, we believe the report is incomplete because it does not address intermediate and overall goals, and implies progress toward goals without actually discussing them. DOD's annual report provides detail on individual research projects, but does not describe intermediate or overall goals or how the accomplishments of the projects relate to the goals. We believe the inclusion of such information in DOD's annual report would provide basic oversight information and further the recipients' understanding of DOD's biological and chemical research programs and the progress being made. We recommend that the Secretary of Defense change the scope of the annual DOD report to include

- a description of Chemical Warfare—Chemical/Biological Defense Research Program and intermediate goals and
- a statement of progress as it relates to the program or intermediate goals.

The U.S. report to the United Nations, until recently, did not include military scientific articles that are published in scientific journals. Because Army officials included this information in the April 1990 U.S. submission to the United Nations, we make no recommendations regarding this report.

This report was prepared under the direction of Donna M. Heivilin, Director, Logistics Issues, (202) 275-8412. Other major contributors are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink that reads "Frank C. Conahan". The signature is written in a cursive style with a large initial "F" and "C".

Frank C. Conahan
Assistant Comptroller General

historically been included in the chemical research program for management purposes. Table I.1 shows the areas of research that DOD reports.

Table I.1: Research Areas Reported by DOD

Chemical Warfare and Chemical Defense Program	Biological Defense Research Program
Chemical research	Biological defense research
Lethal chemical program	Defensive systems
Incapacitating chemical program	Stimulant test support
Chemical defensive equipment program	Management and support
Training support	
Stimulant test support	
Management and support	

Although similar data are reported through the budget process, the annual report is the only one which summarizes, in one document, the status of DOD's Chemical Warfare and Chemical/Biological Defense Research Program activities. We found the report to be generally accurate, and DOD believes it is sufficient to assist the Congress in its oversight of the chemical/biological program. Some data, such as overall program or intermediate objectives and status of progress, are not reported. There is, however, no requirement to report these data.

Data Could Be More Complete

We assessed the accuracy and completeness of the annual report by comparing data for 7 of the 31 projects in DOD's 1988 annual report with similar data in congressional descriptive summaries, which are used to justify DOD's budget requests. Both reports describe individual program and project objectives, accomplishments, and obligations by fiscal year.

Our analysis showed that objectives and accomplishments for the seven selected projects were consistent with those reported in the congressional descriptive summaries and other supporting documentation. However, the descriptions were unlikely to be useful unless a reader had a great deal of technical background. The report did not define the Chemical Warfare and Chemical/Biological Defense Program goals and did not explain how individual accomplishments relate to these goals. For example, "Defensive Systems" is an exploratory development program reported under the Biological Defense Research Program. This program is aimed at, among other things, developing vaccines against potential threat agents and anti-agent drugs. In 1988, DOD reported 20 results for this program. Among the items reported were such results as researchers had defined parameters of distribution and clearance for

delays in awarding the production contract. In this case, the initial objectives and accomplishments for this program were documented, and the Army expects to eventually achieve production. However, the final achievement of a program goal would not now be disclosed in the annual report. Although we do not propose detailed reporting on production status in this case, we believe it would be useful to recognize when the ultimate goal of a fielded mask that works has been met.

DOD is not required to summarize the progress of its research or define program goals and accomplishments. However, we believe such basic oversight information in the annual report would aid in better understanding DOD's Chemical Warfare—Chemical/Biological Defense Research Programs. Officials in the Office of the Secretary of Defense stated that they are concerned, however, about increasing the number of reporting requirements imposed on them.

The Budget Justification Reporting

DOD also reports to the Congress through congressional descriptive summaries to justify its budget submissions. These summary reports provide the Congress with a budgetary snapshot of DOD's chemical and biological research programs, including obligated funds and planned obligations.

DOD submits a descriptive summary for each research program element funded in the current or budget year. These summaries are included as justification material for review by congressional oversight committees. Each summary must include, among other things, project descriptions, accomplishments, and obligations.

Both program element and project data are reported in congressional summaries. However, programs and projects reported in descriptive summaries are not the same as those reported in the annual report. For example, the program element "Chemical, Smoke and Equipment Defeating Technology" is reported in DOD's descriptive summaries. For budget reporting purposes, this program represents four projects. One of these projects is called "Chemical Munitions." In the annual report, this research effort is reported under the "Chemical Warfare and Chemical Defense Program" as an exploratory development effort within the lethal chemical program and the incapacitating chemical program. These two "programs" in the annual report represent the "project" called "Chemical Munitions," as reported in the descriptive summaries.

The reported data result from compiling and condensing information from several sources, including the Office of the Secretary of Defense,

- promote contacts between scientists engaged in biological research directly related to the Convention, including exchanges for joint research on a mutually agreed basis.

The participants agreed to report annually to the United Nations Department for Disarmament Affairs.

As a party to this agreement, the United States reports annually to the United Nations on its biological research activities. Although the United States appears to fulfill its reporting requirements, we observed that the report contained little detail on military scientific publications.

More Detailed Data Could Be Provided

Our examination of 10 nations' reports to the United Nations, including the U.S. report, showed that 5 included listings of published articles. Two of the five reports cited military articles and three did not. The U.S. report contained detailed listings of over 500 publications from the Center for Infectious Disease of the Centers for Disease Control and the Plum Island Animal Disease Center. However, no such listing was provided for military organizations. Instead, the United States reported titles of 46 journals in which research centers and laboratories, including the Army's Medical Research Institute of Infectious Diseases, may have published. We noted 162 military scientific articles published in the Institute's 1988 Annual Report, a document approved for public release, with unlimited distribution, but they were not included in the report to the United Nations.

DOD considers its biological research to be open and generally unclassified, and it encourages the exchange of scientific research information. We discussed this lack of military articles in the report to the United Nations with DOD officials. They said that such data has been included in the April 1990 U.S. submission to the United Nations.

continuity and descriptive summaries for fiscal years 1987 through 1991.

The supporting documentation that we reviewed for the projects included

- congressional descriptive summaries, which describe program elements and projects;
- Army research and development descriptive summaries, the forerunner of congressional descriptive summaries;
- the “Joint Service Chemical Warfare/Chemical, Biological Defense Management Review, OUSDRE FY 1988 Science and Technology Program Review, for the Medical Chemical Warfare Defense Program,” which summarizes program goals and accomplishments;
- program element thrust area accomplishment sheets, compiled by an Army subordinate command;
- annual reviews and analyses, the results of monitoring research laboratories; and
- work unit summaries, which are compiled by contractor and government laboratories to report on the progress of a particular unit of work.

We analyzed the U.S. annual report to the United Nations for 1989, and compared it with international reporting requirements and similar reports from 9 of 19 other countries. We also focused our analysis on data provided by the Department of Defense.

Our work did not include a review of biological or chemical program issues. It also did not assess the reported goals or progress toward achieving goals of the biological program, which is the subject of an ongoing review.

We conducted our review from September through December 1989 in accordance with generally accepted government auditing standards.

Appendix III
Comments From the Department of Defense

Each finding and recommendation is specifically addressed in the enclosure. The DoD appreciates the opportunity to comment on the draft report.

Sincerely,



Charles M. Herzfeld

Now on pp 2-3, 9-11

The GAO compared data for seven of the 31 projects in the DoD 1988 annual report with similar data in Congressional descriptive summaries and found that objectives and accomplishments for the selected projects were consistent with those reported in the Congressional summaries and other supporting documentation. The GAO found, however, that the report did not define the Chemical Warfare and Chemical/Biological Defense Program goals and did not explain how individual program accomplishments achieved the goals. The GAO acknowledged that the DoD is not required to summarize the overall progress of its research or define overall progress of its research, but concluded that such information in the annual report would aid the recipients of the report to better understand the DoD Chemical Warfare-Chemical/Biological Defense Research Programs. (pp. 3-6, pp. 9-13/GAO Draft Report)

DoD Response: Partially concur. The GAO correctly stated that the DoD was not responsible for incorporation of goals, objectives, and program accomplishments in the annual report to the Congress. It is the DoD position that such information should not be incorporated in the report. The Congressional Descriptive Summaries are prepared for each program element supporting the chemical/biological program, and clearly state goals, accomplishments for the past fiscal year, and the planned program for the out years. In addition, the Congress wants an unclassified report for widespread dissemination. If the additional information were included, the annual report would be classified, because it would divulge specific vulnerabilities of the U.S. forces.

- **Finding C: The Budget Justification Reporting.** The GAO reported that the DoD provides descriptive summaries to the Congress that contain budgetary snapshots of DoD chemical and biological research programs, including obligated funds and planned obligations. According to the GAO, the summaries are included as budget justification material for review by Congressional oversight committees and must include project descriptions, accomplishments, and obligations. The GAO pointed out that both program element and project data are reported in Congressional summaries, however, programs and projects reported in descriptive summaries are not the same as those reported in the annual report (Finding B).

The GAO reported that its tests of reported data associated with the budget process for seven chemical and biological research projects showed that:

- the objectives remained consistent throughout the reporting chain; and
- broad accomplishments reported in the descriptive summaries were supported by more detailed accomplishments in subordinate documentation.

Major Contributors to This Report

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Now on pp 11-12

The GAO further reported that since program objectives and accomplishments must be condensed and incorporated into one or two pages, managers judgmentally decide which accomplishments to include in the summaries. The GAO observed that, as a result, not all project accomplishments appear in the descriptive summaries. (pp. 3-6, pp. 14-16/GAO Draft Report)

DoD Response: Concur.

- **Finding D: The U.S. Report To The United Nations.** The GAO reported that, as a party to a 1987 agreement to strengthen the 1972 Biological and Toxin Weapons Convention, the United States reports annually to the United Nations Department for Disarmament Affairs on biological research activities. The GAO reviewed 10 nations' reports to the United Nations, including the U.S. report, and found that 5 reports included listings of published articles, of which only 2 cited military articles. According to the GAO, the U.S. report contained detailed listings of over 500 publications from the Center for Infectious Disease of the Centers for Disease Control, and the Plum Island Animal Disease Center, but no such listing was provided for military organizations. The GAO found that the U.S. reported titles of 36 journals in which research centers and laboratories, including the Army's Medical Research Institute of Infectious Diseases, may have been published. The GAO noted 162 military scientific articles were published in the Institute's 1988 Annual Report which is available to the public but were not included in the report to the United Nations. The GAO pointed out that the DoD considers its biological research to be open and generally unclassified, and encourages the exchange of scientific research information. The GAO reported that the Army has agreed to include military articles in the April 1990 report. (pp. 3-6, pp. 16-19/GAO Draft Report)

Now on pp 3, 12-13

DoD Response: Concur.

* * * * *

RECOMMENDATION

- **RECOMMENDATION:** The GAO recommended that the Secretary of Defense include in the annual DoD report a description of overall Chemical Warfare - Chemical/Biological Defense Research Program goals and a statement of progress in achieving overall program goals. (p. 6/GAO Draft Report)

Now on p 3

DoD Response: Nonconcur. It is the Department's position that the information included in the current reports fully and completely respond to the direction from the Congress, and is sufficient to assist the Congress in its oversight of the chemical/biological program. (See the DoD response to Finding B.)

GAO DRAFT REPORT - DATED FEBRUARY 23, 1990
(GAO CODE 398002) OSD CASE 8246

"CHEMICAL WARFARE: DOD'S REPORTING OF ITS CHEMICAL
AND BIOLOGICAL RESEARCH"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A: Background: DoD's Chemical Warfare And Biological Defense Research Programs.** The GAO reported that the Department of the Army manages the DoD chemical warfare and biological defense research programs. According to the GAO, the chemical warfare portion of the program involves research in both offensive and defensive measures, and is targeted towards developing protective clothing and equipment, techniques to identify and detect chemical weapons, decontamination methods, and medical treatments. The GAO explained that the biological portion is restricted by national policy and the terms of the 1972 Biological Weapons Convention to defensive research only. According to the GAO, the Biological Defense Research Program is geared to developing measures for detection, decontamination, treatment, and protection, with emphasis on developing vaccines and drugs to protect against selected biological warfare agents. The GAO noted that in FY 1989 the DoD spent about \$223 million on the chemical program and \$83 million on the biological program. (pp. 2-3/GAO Draft Report)

DoD Response: Concur. The DoD obligated approximately \$308 million in FY 1989, of which approximately \$226 million was devoted to the chemical program and \$82 million was spent on the biological defense program.

- **FINDING B: DoD's Annual Report on Chemical Warfare - Chemical/Biological Defense Research.** The GAO reported that the Department's Annual Report on Chemical Warfare - Chemical/Biological Defense Research provides Congress with information on expenditures for chemical and biological research of lethal and nonlethal agents and includes a full explanation of the expenditures including the purpose and necessity for them. The GAO explained that the DoD reports on the status of the applicable programs by research category. The GAO observed that, although similar data are reported through the budget process (Finding C), the annual report is the only report which summarizes in one document the status of the Department's Chemical Warfare and Chemical/Biological Defense Research Program activities.

Now on pp 1-2

Comments From the Department of Defense



(R&AT)

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING

WASHINGTON, DC 20301-3010

16 APR 1990

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and Internal 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 entitled "CHEMICAL WARFARE: DoD's Reporting of Its Chemical and Biological Research," dated February 23, 1990 (GAO Code 398002), OSD Case 8246.

The Department agrees in part with the report findings and recommendations. The DoD recognizes the need to report more fully publications arising from the Biological Defense Research Program and will ensure that a complete listing is provided in the annual report to the United Nations Department for Disarmament Affairs. The DoD is pleased that the GAO review of budget justification reporting confirmed the facts that: (1) the objectives remained consistent throughout the reporting chain, and (2) broad accomplishments reported in the descriptive summaries were supported by more detailed accomplishments in subordinate documentation.

The Department does not agree with the specific finding and general recommendation that relates to the need for inclusion of program goals, objectives, accomplishments, and production of fielded equipment in the annual report to the Congress. This report provides funding information and a synopsis of research accomplishments. Other reports required by the Congress (Congressional Descriptive Summaries) provide a clear statement of goals, objectives and accomplishments for each program element.

The Department is fully and completely responding to direction from the Congress, with the current documentation sufficient to assist the Congress in its oversight of the Chemical Warfare and Chemical/Biological Research Programs.

Objectives, Scope, and Methodology

The Chairman, Senate Committee on Governmental Affairs, requested us to examine DOD's reporting of its chemical and biological research program activities. He asked us to review DOD's system to determine if the reported data are of sufficient accuracy and completeness to permit oversight of the programs and ensure compliance with international commitments.

To accomplish this objective, we interviewed officials and examined records at DOD headquarters offices, including the Office of the Secretary of Defense, the Department of the Army, and the Arms Control and Disarmament Agency, Washington, D.C. We analyzed relevant laws, legislative history, and regulations. We also visited the following Army subordinate commands:

- Medical Research and Development Command;
- Medical Research Institute of Infectious Diseases, Fort Detrick, Maryland;
- Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland; and
- Chemical Research, Development, and Engineering Center, Aberdeen Proving Ground, Maryland.

To assess the adequacy of reporting, we identified and examined three reports: (1) DOD's Annual Report on Chemical Warfare—Chemical/Biological Defense Research Program Obligations, (2) the U.S. Report to the United Nations, and (3) DOD's congressional descriptive summaries.

We assessed the accuracy and completeness of the 1988 annual report and the budget process by comparing similar data in the report with fiscal year 1990-1991 congressional descriptive summaries, which are used to justify DOD's budget requests to the Congress. We focused our efforts on and analyzed supporting documentation for seven projects judgmentally selected from congressional descriptive summaries: (1) BS11—medical chemical defense research program, (2) A554—lethal chemical and incapacitating chemical programs, (3) A875—medical defense against chemical agents, (4) DE83—chemical detection and warning materiel, (5) A871—defensive systems, (6) D847—drug and vaccine development, and (7) DO19—M40/M42 protective mask.

The seven accounted for 23 percent of the projects reported in the 1988 annual report. We used the 1988 report since it was the most current. We also reviewed annual reports from 1987, 1986, and 1976-1978 for

Army headquarters, local commands, and subordinate activities, such as government and contractor research laboratories.

Reported Data Are Accurate

Our tests of reported data associated with the budget process for seven chemical and biological research projects showed that (1) the objectives remained consistent throughout the reporting chain, and (2) broad accomplishments reported in the descriptive summaries were supported by more detailed results in subordinate documentation.

Since program objectives and results must be condensed and incorporated into limited space (1 and 2 pages), managers judgmentally decide which results to include in the summaries. Thus, not all project results will appear in the descriptive summaries. For example, for a medical chemical defense project, 22 results were reported in 1988 work unit summaries. Six results were reported in the 1988 annual report and three in the descriptive summaries. However, documentation for this project and the others we tested was consistent.

The U.S. Report to the United Nations

The use of poison gas during World War I resulted in conventions to outlaw chemical and biological warfare. The first convention, the 1925 Geneva Gas Protocol, prohibits the member nations, including the United States, from being the first to use chemical and biological weapons in war, but not from developing, producing, possessing, or transferring them. In addition, the 1972 Biological and Toxin Weapons Convention prohibits stockpiling and acquisition of biological agents or toxins of types and quantities that have no justification for prophylactic, protective, or other peaceful purposes.

In 1987, representatives from over 100 countries that participated in the 1972 convention conferred to strengthen the convention's authority and enhance confidence in implementing its provisions. The participants mutually agreed to

- exchange data on research centers and laboratories meeting high national and international safety standards;
- exchange information on all outbreaks of infectious diseases and similar occurrences caused by toxins;
- encourage the publication of results of biological research directly related to the convention in scientific journals generally available to participating countries, as well as promotion of use for permitted purposes of knowledge gained in this research; and

certain toxins, identified an intracellular site of action of tetanus toxin, and found that a lipid-sugar coating induced protective immunity against aerosol challenges.

The accuracy and apparent relevance of reported results notwithstanding, we found that project descriptions such as this do not indicate their relative contribution in meeting such intermediate goals as developing vaccines. Without such a perspective, it is also impossible to ascertain progress toward overall Biological Defense Research Program goals of deterrence, returning personnel to duty, or preventing mortality in personnel following biological attack. We found the same type of reporting for most of the projects described in the annual report.

Where results cannot be related directly to overall goals, a description of the results' relationship to intermediate goals would help provide a clearer picture of progress. Examples of the type of information we believe would be useful are already found in greater detail in portions of some lower-level reports. The Army's Medical Research Institute of Infectious Diseases reports its mission and objectives and its strategies to achieve the objectives. Work unit summary data include brief statements that help relate the work unit to the strategies and thus provide a perspective of how the work is helping to achieve goals. For example:

- "An understanding of the protective immune mechanisms . . . [is a] prerequisite for the development of effective vaccines and therapeutic measures, and [is] the focal [point] for this research."
- "The goal of this study is to develop and optimize rapid, simple tests for identifying agents of biological warfare potential or geographic importance In previous years, rapid assays to detect antigens and antibodies were developed for a number of militarily relevant viral diseases. After optimization, many of these assays were field-tested under Work Unit No. 809-EA-005. In all cases, the antibody assays worked . . . [but] there is a need to simplify the test format and procedures."

The limits of current reporting can also be demonstrated by the Army's field protective mask. Since 1977, the Army has reported a military requirement to provide respiratory protection in a contaminated environment. The Army initially bought the current M-17 series mask in the 1960s and now considers it obsolete. In 1986 and 1987, the Army reported that the XM-40 series—a product of Army research—would replace the M-17. The mask was not discussed in the 1988 report because it was going into production and reporting was no longer required once research was completed. The Army has experienced

Chemical Warfare—Chemical/Biological Defense Research Reporting

The threat of worldwide chemical/biological proliferation has spurred numerous hearings and legislative efforts to more effectively control and report on chemical warfare and biological defense activities. Legislative actions include increasing export controls, mandating sanctions against nations using chemical/biological warfare, and reinstating the legislative requirement for the Department of Defense (DOD) to report on its chemical and biological defense program obligations. These actions indicate the need and desire for the Congress to have a thorough reporting of chemical and biological research programs and of the expenditures associated with them.

DOD's Annual Report on Chemical Warfare—Chemical/ Biological Defense Research

DOD's Annual Report on Chemical Warfare—Chemical/Biological Defense Research Program Obligations, which is compiled by the Army's Chemical, Research, Development and Engineering Center, is intended to help the Congress maintain oversight of research programs. The annual reporting requirement was established in 1975 by P.L. 93-608. It required the Secretary of Defense to submit reports on expenditures of monies for chemical and biological research of lethal and nonlethal agents. The report is to include an explanation of expenditures including the purpose and necessity for them.

In 1986, the Congress terminated the reporting requirement as part of a cost savings measure and to reduce the administrative burden on DOD.¹ However, the requirement was reinstated in 1989.² The Congress cited the need for better oversight.

DOD's annual reports on the status of its Chemical Warfare and Chemical/Biological Defense Research Programs are organized by research category: basic research, exploratory, advanced, and full-scale development, and testing. For example, in 1988 DOD indicated that it had obligated over \$2 million for exploratory development in its lethal chemical program, a reporting area of the Chemical Warfare and Chemical Defense Research Program.

The report excludes unfunded research and activities involving smoke. Although DOD does not consider smoke to be a chemical agent, it has

¹Section 602 of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (P.L. 99-433).

²Section 243 of the National Defense Authorization Act for Fiscal Years 1990 and 1991 (P.L. 101-189).

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Abbreviations

DOD Department of Defense

Agency Comments and Our Evaluation

DOD generally agrees with the report findings, but did not agree with our specific finding and recommendation related to the need to include goals and a statement of progress in the annual report. First, it believes that including information on U.S. forces' vulnerabilities would make the report classified, and thereby limit report dissemination. Second, it believes the information included in current reports responds to congressional direction and is sufficient for oversight.

We believe our recommendation is still valid because (1) none of the overview information we believe should be included is classified and (2) although the overview information we suggest is not required by law, we continue to believe that the DOD report does not now provide enough perspective for comprehensive oversight. Divulging specific vulnerabilities of the U.S. forces is not required to implement our recommendation.

Matter for Congressional Consideration

We believe that including information on program goals and a statement of progress in achieving them would improve DOD's annual report by setting it in perspective and allow more comprehensive oversight. However, in view of DOD's position not to include this information in its annual report, your Committee may wish to consider whether it believes such information would be beneficial in meeting its oversight responsibilities, and initiate efforts to modify the reporting requirements accordingly.

Appendix I describes the defense reporting in more detail. Appendix II sets forth the objectives, scope, and methodology of our review. Appendix III contains comments by DOD.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to the Secretaries of Defense and the Army, and other interested parties. We will also make copies available to others upon request.

develop measures for detection, decontamination, treatment, and protection, with particular emphasis on developing vaccines and drugs to protect against selected biological warfare agents.

During fiscal year 1989 DOD reported obligations of about \$308 million for the research, development, test, and evaluation of these programs. About \$226 million was reported for the chemical program, and \$82 million for the biological program. DOD provides various reports to the Congress and the international community on its chemical and biological programs.

Reports Are Generally Accurate and Consistent With One Another

Our tests of the following documents showed that they were generally accurate.

- DOD's Annual Report on Chemical Warfare—Chemical/Biological Defense Research Program Objectives, which provides information on monies spent for research, development, test, and evaluation;
- congressional descriptive summaries, which are included as part of DOD's annual budget justification packages; and
- U.S. Report to the United Nations Department of Disarmament Affairs, which provides data on U.S. biological research as it relates to the 1972 Biological Weapons Convention.

We found that project¹ objectives and accomplishments for seven selected projects reported in congressional descriptive summaries were accurate and consistent with those reported in other documents, such as DOD's annual report. The annual report's objectives and accomplishments were consistent with other supporting documentation. Reported obligations for fiscal year 1988 differed between the annual report and comparable budget documents, mainly because funds were reallocated at the end of the fiscal year and data for each report were submitted at different times.

Additional Data Could Be Reported

DOD's annual report does not describe the overall goals of the Chemical Warfare and Chemical/Biological Defense Programs. The report details objectives and accomplishments for 31 smaller efforts in various phases of research and development, but does not describe the individual

¹For the purposes of this report, we define a project as a distinct, reportable segment of a program or program element. In the budget reporting process, a program element normally defines a research development effort with specific design, cost, schedule, and capability parameters.

