

**GAO**

Report to the Chairman, Subcommittee on  
Research and Development, Committee on  
Armed Services, House of Representatives

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March 1992

**DEFENSE  
INDUSTRIAL BASE**

**DOD's Manufacturing  
Technology Program  
Needs Systematic  
Evaluation**



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National Security and  
International Affairs Division

B-207974

March 12, 1992

The Honorable Ronald V. Dellums  
Chairman, Subcommittee on Research  
and Development  
Committee on Armed Services  
House of Representatives

Dear Mr. Chairman:

Since 1980, Congress has appropriated about \$2 billion to the Department of Defense's (DOD) Manufacturing Technology (ManTech) Program in an effort to improve the productivity and responsiveness of the defense industrial base. For fiscal year 1991, Congress appropriated more than double the amount DOD had requested.

In response to your request that we determine whether DOD systematically tracks benefits from the ManTech program, we reviewed the nature and extent of the Office of the Secretary of Defense (OSD) efforts to ensure that the (1) ManTech program is being effectively implemented and (2) benefits from ManTech projects are being appropriately compiled and reported.

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## Background

The ManTech program provides research and development seed money to help develop advanced manufacturing processes, techniques, and equipment. ManTech funds are to be used only when private industry has not committed funds for manufacturing technology on a timely basis in support of DOD requirements or when results are directed at the industrial improvement of government facilities. The intended purpose of the program is to lower manufacturing costs, improve manufacturing processes, and improve product quality through the incorporation of results into a defense-related manufacturing process.

Several major reviews of the ManTech program have concluded that OSD needed to be more actively involved in directing the program and measuring its progress. These reviews indicated that stronger OSD leadership and oversight could better coordinate the way the program addresses technologies of common concern to the military services<sup>1</sup> by establishing a single program plan.

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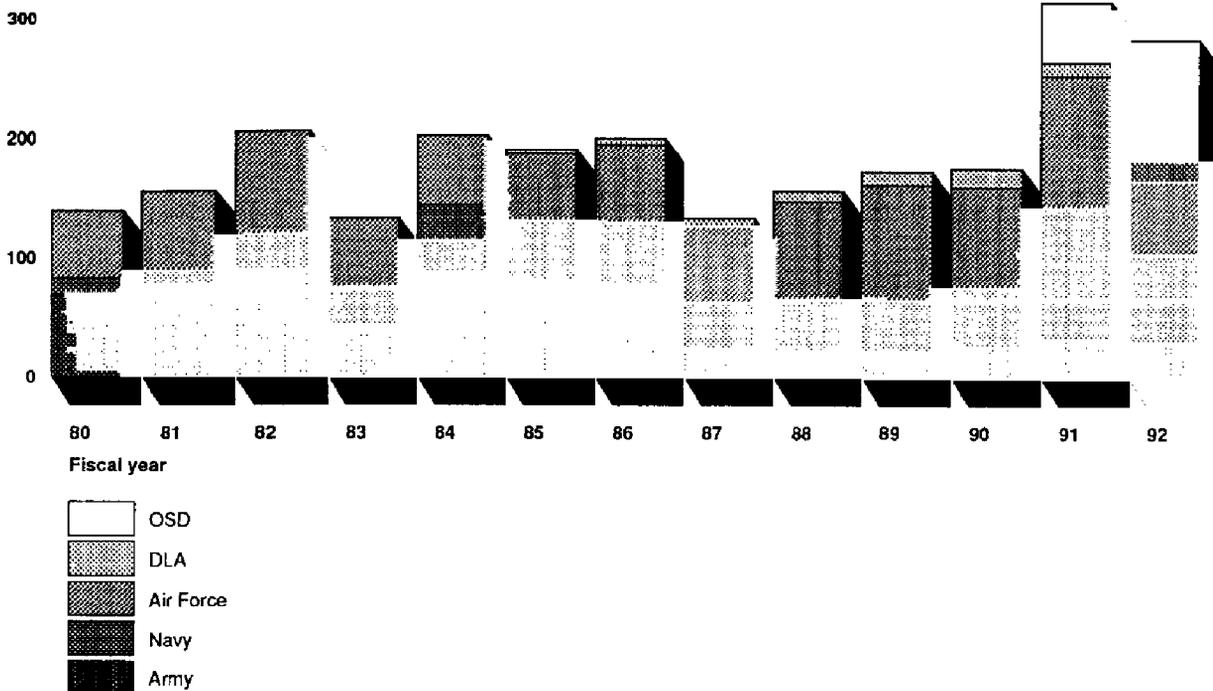
<sup>1</sup>In this report, "military services" refers to the Departments of the Air Force, Army, and Navy, as well as the Defense Logistics Agency (DLA).

To strengthen OSD's oversight and policy guidance role, Congress put a provision in the National Defense Authorization Act for Fiscal Year 1991 that requires OSD to develop and implement a National Defense Manufacturing Technology Plan with goals, priorities, and approaches for the ManTech program. The military services are expected to support the goals and objectives in the OSD plan. Prior to fiscal year 1991, Congress appropriated funds to the services and the Defense Logistics Agency for the program. For fiscal year 1991, Congress appropriated approximately \$312 million to the ManTech program, with \$50 million going directly to OSD to implement this plan and support individual projects. An OSD official told us that almost all of its 1991 funds had been released to the services and Defense Advanced Research Projects Agency for various projects. For fiscal year 1992, Congress appropriated \$280 million, with \$100 million going to OSD.

Figure 1 shows the funding levels for the ManTech program from fiscal year 1980 to the present.

**Figure 1: Manufacturing Technology Program Funding Summary**

400 Dollars in millions



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## Results in Brief

OSD does not have reasonable assurances that the ManTech program is being effectively implemented. Long-standing problems with the program's central management information system have gone uncorrected. The services' annual reports to OSD describe the individual ManTech projects but do not address the extent to which the program goals, priorities and planned approaches are being carried out. The cost savings or financial benefits being attributed to ManTech projects are not reliable. OSD has not established a methodology for assessing the program's impact.

Congress required OSD to establish a Manufacturing Technology Plan. In response to the legislative mandate, OSD indicated that it will be taking a stronger role in planning, but so far has not established guidance that will enable it to measure and evaluate program effectiveness.

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## OSD Needs to Improve Reporting of Program Results

As part of its efforts to oversee the ManTech program, OSD requires the services to supply detailed project information to its central data base and to prepare annual reports. Despite long-standing problems with both this data base and the annual reports, OSD has done little to resolve the problems.

The data base, created over 6 years ago, was intended to be a management information system on the military services' ManTech programs. OSD and service officials told us that they expected a central data base to be useful for planning, coordinating, and providing a perspective on how program funds were being used. However, our review of the data base and interviews with program officials indicated that neither OSD nor the services have used information stored in the central data base for these purposes. OSD does not routinely obtain management information reports that would illustrate how it intended to use the data base.

Fundamental problems have existed with the data base from its inception. One of the more serious problems has been that the services used different interpretations of the term "project" to organize and submit information. OSD defined a "ManTech project" as an individually managed investment that delivers a unique end product and required that a "ManTech project" was to be the common unit associated with all central data base submissions. However, we found that the services have been using the term "project" for a wide range of activities—from funding a unique technical effort for a definite time period to funding research centers on a continuing basis. As a result, information in the central data base is for dissimilar activities instead of common units.

Another central data base problem was missing data. The data base was designed to contain 103 data elements, including 14 benefits data elements, to record data over the life of each project. The services either did not collect all of this information for their own use or formatted it differently from OSD's requirement. Therefore, the information that OSD required was not always readily available from the services.

We obtained information on benefits in OSD's data base for selected projects from each of the military services' programs. We found the data base contained little information related to benefits associated with ManTech projects. The benefits data that the services did provide to OSD had limited usefulness, because it was inconsistent and could not be synopsisized to give an overview of benefits.

OSD officials acknowledged that the data base was incomplete and not used, but they have done little to resolve the deficiencies. OSD initiated a working group of service officials that met three times during 1989 and 1990 to discuss these problems, but the group was not able to resolve the difficulties with data submission because OSD had not decided how it would use the data base. Consequently, the military services were reluctant to provide the data. DLA and Army recently suspended sending information to the data base, pending OSD's management review.

OSD also required the military services to prepare and submit annual reports on their ManTech programs that were intended to serve as a management tool for OSD. OSD asked the services to provide information on projects funded, projects completed, or projects canceled during the past year, as well as some information on total funding and significant accomplishments during the past five years. The services were also asked to list the briefings they had held to present results of completed projects.

We found that the services' annual reports complied with OSD's requirements to describe individual ManTech projects. However, the reports did not address the extent to which established program goals, priorities, and planned approaches were being carried out because OSD did not require this information.

## OSD Lacks a Systematic Approach for Measuring the Impact of ManTech Projects

OSD has not established a systematic approach for measuring the impact of the ManTech program. The program was created to respond to gaps in industrial base responsiveness to DOD's military requirements.<sup>2</sup> However, OSD has not established a methodology for assessing whether the ManTech program is achieving the expected results.

Currently, OSD requires the military services to identify and quantify benefits but provides no guidance on how to do it. This has resulted in estimates of the cost savings or financial benefits from individual ManTech projects that are difficult to substantiate. The military services have conducted studies that have emphasized the difficulty in obtaining "hard evidence" of cost savings or financial benefits attributable to ManTech projects. For example, one study acknowledged that estimates of financial savings from various sources over the years were used to do a savings projection for the Air Force F-16 program. The study stated that this was done although validating savings used for the projection would be extremely difficult, if not impossible, and was not attempted. Two other studies concluded, after reviewing 83 ManTech projects, that it was difficult to obtain "hard evidence" of cost savings or financial benefits attributable to the projects. A common conclusion of these studies was that benefits are difficult to substantiate because estimated benefits cannot be reliably linked to the ManTech investment. Compounding the problem, contractors do not always cooperate in providing the necessary information to track and report on financial benefits. Contractors place restrictions on using their proprietary information in reporting financial benefits.

Another problem in computing savings is determining the period over which the savings occur. For example, the Navy claimed that its ManTech program has already saved over \$1.2 billion, with additional projected savings of \$7.3 billion, but provided no time frame for the future savings. The Navy's projections depend on successful implementation of ManTech projects that have not been completed.

In another example, the Air Force stated that it expected savings to exceed \$1 billion from a new engine inspection technology it funded as a ManTech project, but provided no time frame for when the benefits would be

<sup>2</sup>The following is an example where DLA is funding a project to develop a manufacturing capability to produce substitutes for obsolete microcircuits when they are needed as spare parts. DLA must maintain an inventory of microcircuits to support and maintain various weapon systems. However, contractors often discontinue manufacturing microcircuits even though replacement microcircuits are routinely needed long before the useful life of a system ends. DLA's ManTech project is intended to develop a flexible manufacturing technology that would be of assistance to industry to produce many different replacement microcircuits as they are needed.

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realized. The Assistant Secretary of Defense (Production & Logistics) used this example in congressional testimony in April 1991 to say that \$1 billion has been saved. However, our review of the records indicates that the benefits were projected out to the year 2000.

Our discussions with officials at all levels indicated that they believed that the focus on estimating financial benefits had made the reporting and evaluating of results difficult. Nevertheless, the military services continue to estimate and report cost savings resulting from ManTech projects. OSD continues to rely on the services' estimates when discussing the projects' achievements and does not analyze the reasonableness of the services' estimates. OSD does not test the accuracy or reliability of data supplied.

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## OSD Attempts to Enhance Its Planning Role, But Still Needs to Improve Program Oversight

There have been long-standing criticisms of the ManTech program. For example, over the years, the ManTech program had been criticized for (1) spreading small amounts of funds across many diverse projects, (2) funding projects that were largely unrelated and not focused on particular technological innovations, and (3) failing to disseminate benefits of ManTech projects to industry. These and other criticisms led to the 1991 legislation that required OSD to establish a Manufacturing Technology Plan intended to increase program impact.

The Congress required OSD to establish a Manufacturing Technology Plan that could result in a restructuring of the overall program. OSD established a multiagency task force<sup>3</sup> to assist it with developing a plan. However, the plan has not yet been completed.

OSD officials are addressing some of the criticisms. In fact, an OSD official stated in recent congressional testimony that OSD was already implementing the plan and achieving "positive results." The OSD official stated that OSD had "come a long way in clarifying program goals and increasing communications among [DOD's] manufacturing community."

In response to the legislative requirement, OSD recently adopted a more focused approach that would better coordinate the selection of projects. However, our review indicates that OSD does not have any evaluation criteria to substantiate or corroborate claims of positive results.

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<sup>3</sup>The DOD ManTech Task Force was composed of representatives from Army, Navy, Air Force, DLA, OSD, the Defense Advanced Research Projects Agency, the Strategic Defense Initiative Organization, the Departments of Commerce and Energy, the National Science Foundation, and the National Aeronautics and Space Administration.

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## Recommendation

As an integral part of completing the legislatively required Manufacturing Technology Plan, we recommend that the Secretary of Defense revise the system of controls designed to provide assurances that the ManTech program is being effectively implemented. Such a revised system should include guidance to ensure that the military services routinely and uniformly report on (1) the extent to which they have sound rationales to demonstrate they are funding projects that industry would not fund on a timely basis (2) the results of the projects measured against standardized criteria, and (3) their progress in meeting established program goals, priorities, and planned approaches.

The Secretary of Defense should also revise ManTech program guidance to demonstrate how the military services' program data will be used to evaluate the overall ManTech program.

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## Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD agreed that the management of the ManTech program could be strengthened and the program's overall effectiveness could be improved. However, DOD stated that its "program managers cannot be expected to manage effectively when a third to a half of the program serves only congressional constituent special interests." We recognize that in fiscal year 1991 Congress more than doubled the amount DOD had requested and directed the use of a large portion of the appropriated funds. However, we do not believe this alleviates DOD from its responsibilities for assuring that the ManTech program is being effectively implemented. Many of the problems cited in this report have been known and reported for years.

The DOD comments are presented in their entirety in appendix I.

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## Scope and Methodology

To review program oversight, benefits tracking and reporting in the ManTech program, we made site visits and obtained information from program officials in OSD and the military services. We visited the

- Office of the Deputy Chief of Staff for Concurrent Engineering, Headquarters, U.S. Army Material Command, Alexandria, VA;
- Naval Industrial Resources Support Activity, Naval Base, Philadelphia, PA;
- Manufacturing Technology Directorate, Wright Research and Development Center, Air Force Systems Command, Wright-Patterson Air Force Base, OH;

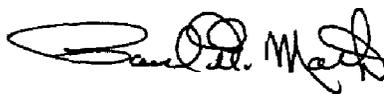
- Manufacturing Engineering/Research Office, Defense Logistics Agency, Alexandria, VA;
- U.S. Army Communications and Electronics Command, Fort Monmouth, NJ; and
- U.S. Army Armament, Munitions, and Chemical Command, Picatinny Arsenal, NJ.

We reviewed regulations, previous reports on the program, studies of ManTech benefits, program management documents, and studies that addressed issues in evaluating research programs. We reviewed program data bases maintained by OSD and the military services to compare information available on project benefits. We obtained copies of documents pertaining to the design, purpose, and use of the central data base. We obtained printouts of data the services told us they maintained to manage their programs and provide data to OSD, copies of Military Base Load Status Reports that identified missing data in the services' submissions, and printouts of benefits data from the central data base for selected cases as of June 19, 1991.

We conducted our review from August 1990 to September 1991 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretary of Defense, other interested congressional committees, and the Director, Office of Management and Budget. We will make copies available to others upon request. Please contact me at (202) 275-8400 if you or your staff have any questions concerning this report. Other major contributors to this report are listed in appendix I.

Sincerely yours,



Paul F. Math  
Director, Research, Development,  
Acquisition, and Procurement Issues

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# Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



PRODUCTION AND LOGISTICS

ASSISTANT SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301-8000

February 13, 1992

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, "DEFENSE INDUSTRIAL BASE: DoD's Manufacturing Technology Program Needs Systematic Evaluation," dated December 23, 1991 (GAO Code 396147) OSD Case 8923.

The Department of Defense agrees that the management of the DoD Manufacturing Technology Program can be strengthened to improve the overall program effectiveness. The DoD is taking steps to do just that. Yet the report gives inadequate consideration to those efforts. Similarly, the Manufacturing Technology Program has been considered a successful program for many years. That also is not mentioned in the report.

In addition, and even more important, it is particularly troublesome that the impact of congressionally directed programs is not mentioned. The DoD program managers cannot be expected to manage effectively when a third to half of their program serves only congressional constituent special interests. In FY 1992, for example, fully 58 percent of all Manufacturing Technology Program funds appropriated are for directed programs. None of these programs have met any of the criteria cited by the GAO as being important in the project selection process. None of these programs have quantified the projected benefits, either in dollar terms or in other measures, nor has any analysis of cost effectiveness been performed. With such a volume of directed programs, it is inevitable that the GAO will discover problems such as those alleged in the draft report, and then blame them on DoD management rather than on the source of the problem--the congressionally directed programs.

Thus, it is the Department view that the draft report lacks balance and fails to address several fundamental issues. The result is a misleading report. To reflect the true situation accurately, the report should cite the positive aspects of the program, the

See comment 1.

See comment 2.

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See comment 3.

dilemma of the directed programs, and DoD plans to improve areas that need strengthening.

The Department has spent several months developing a National Defense Manufacturing Technology Plan, which currently is in the process of being reviewed by the various DoD Components. The activities associated with preparing the plan have addressed all of the valid concerns expressed in the draft report.

Specific DoD comments on each of the report findings and recommendations are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,



Enclosure

David J. Berteau  
Principal Deputy Assistant Secretary of  
Defense (Production and Logistics)

Appendix I  
Comments From the Department of Defense

GAO DRAFT REPORT--DATED DECEMBER 23, 1991  
(GAO CODE 396147) OSD CASE 8923

DEFENSE INDUSTRIAL BASE: DOD IS NOT ADEQUATELY OVERSEEING  
THE MANUFACTURING TECHNOLOGY PROGRAM

DEPARTMENT OF DEFENSE COMMENTS

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FINDINGS

FINDING A: The Manufacturing Technology Program Provides Research and Development "Seed" Money to Help Develop Advanced Manufacturing Processes, Techniques, and Equipment. The GAO explained that Manufacturing and Technology funds are to be used only when private industry has not committed funds for manufacturing technology on a timely basis in support of DoD requirements. According to the GAO, the intended purpose of the program is to (1) lower manufacturing costs, (2) improve manufacturing processes, or (3) provide product quality through the incorporation of results into a Defense-related manufacturing process.

The GAO noted that several reviews of the Manufacturing Technology Program (known as the ManTech Program) have concluded that the Office of the Secretary of Defense needed to be involved more actively in directing the program and measuring its progress. The GAO pointed out those reviews indicated that stronger leadership and oversight by the Office of the Secretary of Defense could better coordinate the way the program addresses technologies of common concern to the Military Services by establishing a single program plan.

The GAO explained that, to strengthen the oversight and policy guidance role of the Office of the Secretary of Defense, the Congress put a provision in the National Defense Authorization Act for FY 1991, which requires the Department to develop and implement a National Defense Manufacturing Technology Plan with goals, priorities, and approaches for the ManTech program. The GAO observed that the Military Services are expected to support the goals and objectives in the DoD plan. The GAO noted that, for FY 1991, the Congress appropriated approximately \$312 million to the ManTech program, with \$50 million going directly to the Office of the Secretary of Defense to develop the plan and support individual projects. The GAO reported that almost all of the FY 1991 funds have been released to the Services and the Defense Advanced Research Projects Agency for various projects. The GAO also pointed out that for FY 1992, the Congress appropriated \$280 million, with \$100

See comment 4.

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million going directly to the Office of the Secretary of Defense.  
(pp. 1-4/GAO Draft Report)

**DOD RESPONSE:** Partially concur. The DoD agrees that the Office of the Secretary of Defense needs to strengthen its program oversight and program coordination. However, the report is misleading about the DoD ability to control the program. The GAO omitted an important fact in its discussion of congressional program add-ons in FY 1991 and FY 1992. The Congress provided additional funds, but also said: "Direct them to this specific purpose"--generally in their home districts. In FY 1991, two thirds of the amount added or almost one third of the total amount appropriated was directed to specific congressional interests (\$105 million out of \$312 million total). In 1992, the proportion of directed efforts is even larger. Congress appropriated \$280 million of which 58%, or \$163 million, was "directed" to specific Manufacturing Technology Program projects. None of these projects have been evaluated against any selection criteria, no benefits have been quantified, and no analysis of cost effectiveness has been performed. This creates an environment in which it impossible to be an effective program manager.

It is significant challenge, at best, for the DoD to formulate and execute a sound Manufacturing Technology Program of such scope and complexity just on the merits of the problems that need to be solved. With outside interference designed to support "constituency interests," it becomes an exercise in futility. Resources expended to develop program plans are wasted. Realistic planning and execution of sound program management practices are impossible in such an environment. As a result, the DoD is returning \$163 million of FY 1992 Manufacturing Technology Program directed efforts to the Congress for consideration as rescission candidates.

**FINDING B: The Office of the Secretary of Defense Lacks Adequate Information On the ManTech Program.** The GAO reported that the Office of the Secretary of Defense has required the Military Services to supply detailed project information for a central data base and to prepare annual reports. The GAO concluded, however, that despite long-standing problems with the central data base and the annual reports, the Office of the Secretary Defense has done little to resolve the problems.

The GAO noted that the DoD data base, created over 6 years ago, was intended to be a management information system on the Manufacturing Technology programs of the Military Services. The GAO reported that the central data base was expected to be useful for planning, coordinating, and providing a perspective on how programs were being used. The GAO found, however, that (1) neither the Office of the

See comment 2.

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Secretary of Defense or the Services have used the information in the data base, (2) the Office of the Secretary of Defense does not obtain reports from the system, and (3) a single management information report has never been generated to illustrate the intended use of the data base.

The GAO concluded that fundamental problems have existed with the data base from its inception. The GAO asserted that one of the more serious problems has been that the Services use different interpretations of the term "project" to organize and submit information. The GAO found that the Services used the term "project" for a wide range of activities--from funding a unique technical effort for a definite time period to funding research centers on a continuing basis. Another problem the GAO found was that the Services did not collect all of the required data and, as a result, the data were not always readily available.

For selected projects from each of the Military Services programs, the GAO obtained information on benefits from the DoD data base. The GAO found that the data base contained little information related to benefits associated with the Manufacturing Technology projects. The GAO concluded that, because it was inconsistent and could not be synopsized to give an overview of benefits, the benefits data provided by the Services to the Office of the Secretary of Defense had limited usefulness. According to the GAO, officials in the Office of the Secretary of Defense acknowledged that the data base was incomplete and not used. The GAO further concluded that little has been done to resolve the deficiencies.

The GAO reported that the Office of the Secretary of Defense also required the Military Services to prepare and submit annual reports containing detailed information on their Manufacturing Technology programs. The GAO found that the annual reports complied with the requirements; however, the reports did not provide overall summaries and trends associated with the various Service programs. The GAO asserted, for example, that the annual reports did not address the extent to which established program goals, priorities, and planned approaches were being carried out. (pp. 4-7/GAO Draft Report)

**DOD RESPONSE:** Partially concur. The DoD agrees with the text on pages 4-7 of the report, but contends the section heading is not supported by the text.

The GAO apparently failed to recognize that the data base is not the only source of information on the Manufacturing Technology Program available to the Office of the Secretary of Defense. The DoD Components routinely provide information through other sources. They fully comply with the data requirements of the Planning, Programming,

See comment 5.

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and Budgeting System. During the DoD budget cycle, the programs are reviewed through the chain of command and finally approved by the Office of the Secretary of Defense. The DoD Components also frequently supply information on an ad hoc basis for a wide range of information requirements. In addition, the Components also prepare annual plans--which are shared with the Office of the Secretary of Defense.

The GAO criticism must be limited to the effectiveness of the centralized ManTech data base. While both the Office of the Secretary of Defense and the DoD Components recognize the data base must be strengthened, the GAO view that it is not used is incorrect. The data base (1) serves as the primary information source of current ManTech program information to the DoD Manufacturing Technology Information Analysis Center, which serves a national audience and is the DoD focal point for manufacturing technology information, (2) was recently used to prepare part of the input to position papers used to establish President Bush's position on the need to continue machine tool voluntary restraint agreements, and (3) is used to prepare a standard handout of the Office of the Secretary of Defense which describes the scope of the Manufacturing Technology Program by listing the processes associated with more than 1000 individual investments listed in the data base.

Both the Office of the Secretary of Defense and the DoD Components recognize the need to strengthen the centralized database to make it more effective. That issue was discussed on numerous occasions during the deliberations of the Task Force, which was convened to assist in the preparation of the National Defense Manufacturing Technology Plan. The DoD has asked the Logistics Management Institute to initiate a review of the data base and other reporting requirements in an attempt to resolve the same issues identified by the GAO.

**FINDING C: The Office of the Secretary of Defense Lacks Adequate Criteria for Measuring Impact of Manufacturing Technology Projects.**

The GAO observed that the Office of the Secretary of Defense had not established adequate criteria for measuring whether the Manufacturing Technology program is funding the appropriate projects and the expected results are being achieved. The GAO noted that the Military Services are required to identify and quantify benefits. The GAO pointed out, however, the Military Services have conducted several studies that have emphasized the difficulty in obtaining "hard evidence" of cost savings or financial benefits attributable to ManTech projects. The GAO found a common conclusion of those studies was that benefits cannot be reliably linked to the ManTech

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investment. In addition, the GAO found the problem is compounded by contractors placing restrictions on using their proprietary information in reporting financial benefits.

Another problem the GAO found was determining the period of time in which the saving occurred. For example, the GAO stated that the Air Force expects savings to exceed one billion dollars for a new engine inspection technology it funded as a ManTech project; however, no time frame is provided as to when the benefits would be realized. The GAO found the records indicated that these benefits were projected out to the year 2000.

The GAO reported that, according to officials at all levels, the focus on estimating financial benefits had hampered the reporting and evaluating of results. Nevertheless, the GAO found that (1) the Military Services continue to estimate and report cost savings resulting from Manufacturing Technology Projects, (2) the Office of the Secretary of Defense continues to rely on the Services estimates, and (3) the Office of the Secretary of Defense does not test the accuracy or reliability of data supplied by the Services. (pp. 7-9/GAO Draft Report)

**DOD RESPONSE:** Partially concur. The GAO is incorrect in stating that the DoD does not have criteria to measure the effectiveness of the Manufacturing Technology Program. Current DoD criteria include (1) cost and lead time reduction; (2) improved product quality and reliability; (3) improved safety; (4) reduced pollution; (5) lower repair costs; and (6) providing proven manufacturing options. The DoD and GAO differ on expectations of the extent to which those attributes can be measured in dollar terms. The GAO apparently has concluded that the DoD should be able to quantify each of these cited attributes in monetary terms, and to then compare them against some standard of acceptance--which would then indicate where they fall in some spectrum from good to bad. While such preciseness is certainly desirable, it may be impractical or not cost effective. The DoD recognizes that some ManTech projects do produce direct cost savings. Others may produce man-hour reductions. Where possible, the DoD attempts to identify those benefits. However, in some cases the DoD does not expect a financial benefit. For example, a safety or pollution investment clearly can be successful, but end up costing the DoD more money than the previous processes. In those cases, the DoD will attempt to quantify the benefits in terms of safety or pollution control measures.

The DoD is in the process of establishing a systematic method of (1) objectively evaluating which projects are most appropriate for funding and (2) objectively evaluating completed project benefits.

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The DoD intends to field test the new methodology in the near future.

**FINDING D: The Office of the Secretary of Defense Attempts to Enhance Its Planning Role, But Does Little to Improve Program Oversight.**

The GAO reported that there have been long-standing criticisms of the Manufacturing Technology Program. The GAO stated the criticisms led to the 1991 legislation, which required the Office of the Secretary of Defense to establish a Manufacturing Technology Plan intended to increase program impact. The GAO explained that the Congress required the Office of the Secretary of Defense to establish a Manufacturing Technology Plan that could result in a restructuring of the overall program. The GAO noted that, although the Office of the Secretary of Defense established a multi-agency task force to assist in developing a plan, the plan has not yet been completed.

The GAO reported that, according to some officials, they are addressing some of the criticisms and that the plan is achieving "positive results." The GAO noted that, in response to the legislative requirement, the Office of the Secretary of Defense recently adopted a more focused approach, designed to better coordinate the projects to be selected. The GAO concluded, however, that officials seem to be overstating the extent of their progress. The GAO further concluded that without any evaluation criteria to substantiate or corroborate claims of positive results, the Office of the Secretary of Defense appears to be substituting program advocacy for program evaluation. (pp. 9-10/GAO Draft Report)

**DOD RESPONSE:** Partially concur. Significant effort has been expended to prepare a National Defense Manufacturing Technology Plan. It is currently being staffed officially by the Office of the Secretary of Defense prior to being released.

Among other things, the Plan embodies an integrated approach for strengthening program oversight. Before the end of the current fiscal year, the Office of the Secretary of Defense will implement a Manufacturing Technology Program Steering Committee, chaired by the Principal Deputy Assistant Secretary of Defense (Production and Logistics) and a Management Committee chaired by the Director, Manufacturing Modernization. That, coupled with a restructuring of the Manufacturing Technology Advisory Group committees membership, goals, and objectives, provides a dual management improvement thrust--top level guidance and oversight supported by well organized field level planning, coordination, and networking. In addition, in order to assure that these initiatives are effective, the Office of the Secretary of Defense periodically will review management, fiscal,

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and technical aspects of each DoD Components' Manufacturing Technology Programs.

The positive results referred to by the DoD and referenced by the GAO referred to the coordination and networking that has taken place among the highly diverse Task Force participants. Various Manufacturing Technology Program organizations and individuals have coordinated with one another to a greater extent than ever before.

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**RECOMMENDATIONS**

**RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense establish a system of controls to provide reasonable assurances that the Manufacturing Technology Program is being implemented effectively. According to the GAO, such a system include guidance to ensure that the Military Services routinely and uniformly report on the following:

- the extent to which the Services are funding projects that industry would not fund on a timely basis;
- the results of the projects measured against standardized criteria; and
- the progress in meeting established program goals, priorities and planned approaches. (pp. 10-11/GAO Draft Report)

Now on p. 7.

**DOD RESPONSE:** Partially concur. The recommendation implies that either no systems of controls exists, or that the current system does not provide reasonable assurance that the Manufacturing Technology Program is being implemented effectively. That opinion is inconsistent with the facts. It certainly does not reflect adequately any the many positive aspects of the Manufacturing Technology Program, which seemed to have been totally ignored in the GAO report. Nevertheless, there is no question that the management of the Manufacturing Technology Program can be strengthened.

See comment 1.

It is pointed out, however, that even if DoD best efforts were perfect, it would be impossible to manage the Manufacturing Technology Program effectively and efficiently as long as the Congress continues to direct specific programs that are only of interest to a unique constituency--which often does not include the DoD. The Congress directed over a third of the total amount appropriated in FY 1991 and 58% of the amount appropriated in FY 1992. The DoD cannot be expected to manage any program effectively

See comment 2.

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**Comments From the Department of Defense**

with that type of external forces impacting management, nor to be able to measure them against goals and criteria that played not role in the congressional decision to direct funding to specific projects. While many DoD ManTech program managers are highly skilled, experienced individuals, they cannot follow basic program policies, nor do rational planning in such an environment. The GAO cannot reasonably expect them to do so.

**RECOMMENDATION 2:** The GAO recommended that the Secretary of Defense revise the ManTech program guidance to demonstrate how the Military Services program data will be used to evaluate the overall ManTech program. (p. 11/GAO Draft Report)

**DOD RESPONSE:** Concur. During the past year, the Department had a committee working on a revision of the DoD Manufacturing Technology policy document, as a part of the activities necessary to prepare the National Defense Manufacturing Technology Plan. The DoD will continue those activities and expects to complete the revision of the policy document by the end of FY 1992.

Now on p. 7.

The following are GAO's comments on DOD's letter dated February 13, 1992.

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## GAO Comments

1. Our draft report pointed out that OSD established a multiagency task force to assist it with developing the congressionally mandated Manufacturing Technology Plan. We pointed out that the plan could result in a restructuring of the overall program. We also pointed out that OSD was conducting a management review of the central data base.
2. Congressional direction of a portion of this program does not alleviate DOD from its responsibilities for assuring that the ManTech program is being effectively managed.
3. DOD has not yet fully addressed many of the valid concerns about this program. For example, DOD's comments acknowledge that it needed to strengthen the centralized data base to make it more effective and had not field tested the new methodology for determining which projects were most appropriate for funding or for objectively evaluating completed project benefits.
4. The correct title of GAO's report is the one shown in DOD's letter dated February 13, 1992: "DEFENSE INDUSTRIAL BASE: DOD's Manufacturing Technology Program Needs Systematic Evaluation."
5. We modified the section heading to better reflect the text.
6. Our draft report recognized that the data base is not OSD's only source of ManTech information and pointed out that DOD required the military services to prepare and submit annual reports. However, our review of these reports also indicated that they do not contain the necessary information to evaluate the effectiveness of the program in achieving overall goals and objectives.

We did collect and analyze budget and planning data from the services and OSD. However our report does not focus on this data, because the data was not intended to be used for assessing whether the ManTech program achieved the expected results.

7. ManTech officials in OSD and the services told us that the centralized data base was not used in managing the program and that data was missing

because long-standing problems with data submission had not been resolved.

8. OSD's current program guidance to the military services continues to encourage the reporting of financial benefits on a project basis, but does not provide criteria for reporting either financial or nonfinancial benefits. Without such criteria, there is no reasonable assurance that the claimed savings accurately reflect the contribution that the program made in achieving the benefits. Our review suggests that the claimed savings are probably overstated at least in some instances.

9. This DOD comment seems contradictory to its earlier comments. For example, DOD stated that at best it is a significant challenge for DOD to formulate and execute a sound ManTech program just on the merits of the problems to be solved. DOD indicates that because of outside interference to support constituency interests planning becomes an exercise in futility and resources expended to develop plans are wasted. DOD states that realistic planning is impossible in such an environment.

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