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DEFENSE COMMUNICATIONS

Defense's Program to Improve Telecommunications Management Is at Risk



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**Information Management and
Technology Division**

B-251578

February 19, 1993

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

Dear Mr. Chairman:

This report responds to your request that we review the Department of Defense's (DOD) efforts to improve the management of its communications resources. Over the past several years, GAO, Defense's Inspector General, and Defense internal studies have been critical of Defense's communications management practices. These studies note that Defense has the opportunity to consolidate and optimize its communications resources and reduce costs. Defense acknowledges that it does not have a complete inventory of these resources and that its total communications costs cannot be determined, although estimates range from \$10 billion to \$20 billion. Defense recognizes that accurate inventory and cost information is essential for effective and efficient DOD-wide communications resource management.

In 1991 Defense established the Telecommunications Management Program (TMP) to analyze its communications management deficiencies and develop ways to solve those deficiencies. Because of the need to establish a framework for effective DOD-wide communications resource management, our review focused on the extent to which Defense is effectively implementing TMP. Details of our objective, scope, and methodology are discussed in appendix I.

Results in Brief

Defense is not effectively implementing TMP. The program began with a sound strategy for achieving long-term improvements in communications management based on systematic, top-down analyses and restructuring of its current business processes. However, Defense has shown little commitment to the program. Defense has not developed a clearly articulated vision of how its communications business and management practices should be conducted in the future or clarified departmentwide communications management roles and responsibilities. Moreover, Defense has redirected TMP's resources to support an effort to achieve immediate cost savings through the consolidation of existing communications networks. By concentrating on a short-term, band-aid

approach Defense will not have the information, processes, and systems it initially intended to develop and that will be needed to solve its costly communications deficiencies and meet the program's goal of fundamentally improving the management of communications resources.

Background

The Department of Defense estimates that it spends from \$10 billion to \$20 billion dollars a year to provide communications resources (e.g., connections to networks, dedicated circuits, etc.) to operational programs (command and control, and other mission-essential functions). These costs cannot be more accurately estimated because they are not identified in budget or accounting documents as a separate line item. Rather they are embedded in numerous budget categories and program elements.

Communications resources are managed at many different levels within DOD without a unified management reporting structure. At the highest level, the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (OASD/C3I) has overall responsibility for communications policy, planning, and budgeting. The Defense Information Systems Agency (DISA), which is directly under OASD/C3I, provides DOD-wide long-haul communications service. Individual military services and other DOD agencies independently procure, operate, and manage their individual networks, dedicated circuits, and other resources needed to support their base, post, camp, or station.

Military departments and Defense agencies rely on numerous and disparate manual and automated systems to manage their communication resources. These systems range from basic paper files supporting a base, post, camp, or station to automated systems supporting DOD-wide networks. Because these systems do not use standard data definitions, formats, or technical interfaces, Defense cannot use them effectively to consolidate the information to ensure economical, effective communications management.

Numerous studies have highlighted problems with Defense's communications management practices. To illustrate, a 1989 Defense Inspector General report stated that Defense was unable to identify, track, and account for its communications resources and, as a result, was paying as much as \$21.3 million annually for resources that were not needed, not cost-effective, or could not be located.¹

¹Requirements Validation for Telecommunications Services (DOD IG-90-005, Oct. 16, 1989).

Recognizing these problems, the Deputy Secretary of Defense established the Defense Management Report Decision (DMRD) 968² and directed OASD/C3I to develop an action plan to improve overall communications management and operations and to lower costs. Defense projected that DMRD 968 would save \$420 million over a 5-year period starting in fiscal year 1992 and reduced its communications budget accordingly. OASD/C3I designated DISA as the lead agency for implementing the action plan. DISA established TMP to carry out many of the action plan's tasks, including conducting an inventory of communications resources and identifying their associated costs. The overall goals of TMP are to (1) improve communications management processes and (2) establish a Defense-wide telecommunications management system to support the improved processes. DOD officials state that TMP is crucial to the success of DMRD 968.

DOD's Effort to Achieve Effective Telecommunications Management Is Unlikely to Succeed

Though TMP is acknowledged to be crucial to correct communications management deficiencies, OASD/C3I and DISA have shown little commitment to the effort. Specifically, they have provided minimal direction and guidance to TMP and have made short-sighted decisions in an attempt to compensate for the budget reductions that were a part of DMRD 968. For example, less than 1 year into the TMP effort, OASD/C3I and DISA redirected TMP's resources to support an effort to build a telecommunications management system before TMP had (1) completed analyses of DOD communications management processes and systems needs and (2) established the data, functional, and technical requirements for the system. By adopting a "cart before the horse" approach, Defense has no assurance that the telecommunications management system being developed will support effective and efficient DOD-wide communications management.

Defense's Initial Approach Was Systematic and Logical

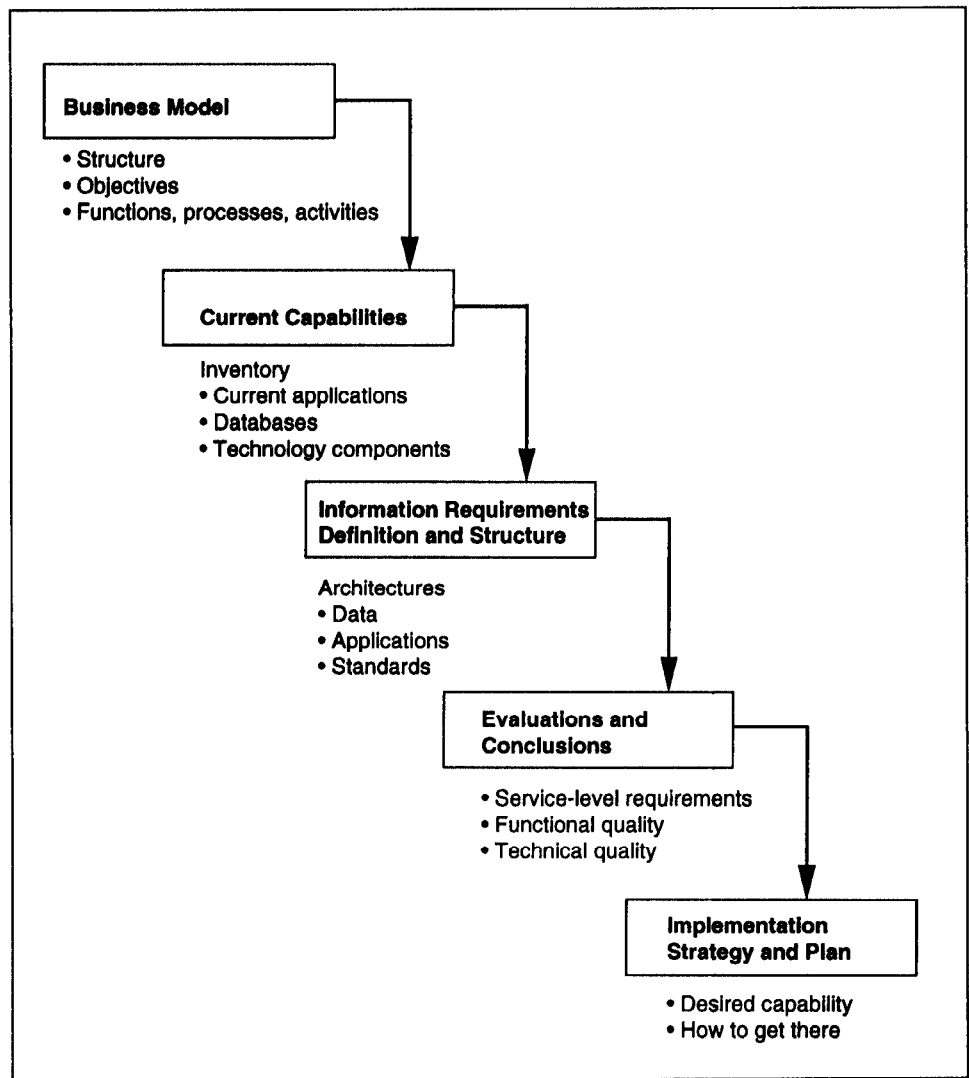
TMP's overall strategy was to analyze existing communications management processes (e.g., inventory control, procurement, billing and accounting) and supporting information systems and, based on these analyses, recommend improvements to both.

Early in the program, the TMP program manager adopted a robust and systematic methodology—known as information engineering—that was consistent with Defense's endorsed methodology for improving business

²This Decision, while specifically addressing communications improvements, is part of the overall Defense Management Report that recommends streamlining Defense operations.

and management processes.³ The information engineering methodology is a top-down analysis of current and evolving business functions, processes, and systems. The TMP plans to use the methodology to define the data, technical, and functional requirements needed to implement improved business processes regarding communications management. Figure 1 illustrates the sequence of activities in the information engineering analysis methodology that TMP plans to use.

Figure 1: Activities in TMP's Information Engineering Methodology



³In January 1991, DOD endorsed a management philosophy called Corporate Information Management (CIM). CIM emphasizes improving business processes (operations) before identifying specific technical solutions. CIM includes a top-down information engineering model. According to the model, information systems are to be designed only after business processes are documented and redesigned.

The information engineering methodology, if correctly implemented, would help Defense eliminate redundant processes and systems, reduce operational costs, and develop an operational management environment (information, tools, processes, and systems) that effectively and efficiently supports the improved business processes.

OASD/C3I and DISA Have Not Laid the Groundwork for TMP Success

For the TMP effort to succeed, OASD/C3I must (1) clearly articulate how communications business and management processes are to be conducted DOD-wide, and (2) precisely define the roles and responsibilities of both the management and operational components involved in the communication business and management processes. Further, OASD/C3I and DISA must recognize the importance of performing requisite analysis before proceeding with the development of the telecommunications management system.

To date, OASD/C3I has not clearly articulated DOD's vision of how communications business and management processes should be conducted DOD-wide. Nor has OASD/C3I clearly defined DISA's role in DOD-wide communications management (e.g., whether it will continue to be a long-haul service provider, an end-to-end DOD-wide communications manager,⁴ or something in between). Until this is done, DISA will be unable to develop a business plan that would guide the transition from the current mode of doing business to the greater economies, efficiencies, and services of the future.

Moreover, despite its intent to support TMP's information engineering methodology—analysis first, implementation later— OASD/C3I and DISA have changed priorities in order to achieve immediate cost savings through the consolidation of existing service and agency-unique networks called the Defense Information System Network (DISN).⁵ To support this consolidation, TMP was redirected to develop a telecommunications management system without having completed the information engineering analysis. DISA now plans for the management system being developed in conjunction with the DISN effort to evolve to support DOD-wide communications. The risk in this approach is that the system designed simply to consolidate existing networks will not support the

⁴End-to-end communications includes all equipment and services from telephone to telephone or from keyboard to keyboard.

⁵DISN is to become DISA's new worldwide, consolidated communications infrastructure to provide DOD-wide end-to-end information transfer. The first phase of DISN is the consolidation of eight service and agency-unique networks.

fundamental improvements needed to manage DOD-wide communications more effectively and economically.

Conclusions

The TMP initiative was established as part of a mandate to improve the DOD-wide management of communications resources. The TMP initiative is one of the most important elements to fulfilling the mandate. However, OASD/C3I and DISA have shown little commitment to TMP, as evidenced by the failure to (1) provide needed guidance and direction and (2) follow Defense's own logical, systematic approach, which requires analyzing its current operations and future needs before building systems. With no clearly articulated vision of improved business practices and management processes, and with TMP focused on near-term improvements to current practices, Defense will not have the information, processes, and systems in place to effectively and efficiently improve and manage communications DOD-wide.

Recommendations

To ensure that the goals of improving the management of communications resources can be met, we recommend that the Secretary of Defense direct the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence to

- clearly articulate a vision of how DOD communications business and management processes should be conducted DOD-wide, and
- define the communications management roles and responsibilities of DISA and other communications management and operational components.

Further, the Office of the Assistant Secretary of Defense, Command, Control, Communications, and Intelligence should direct the Defense Information Systems Agency to

- develop a DOD-wide communications business plan that supports OASD/C3I's vision of DOD-wide communications management, and
- give priority to the TMP information engineering effort to develop the DOD-wide telecommunications management system to support the business plan.

Agency Views and GAO Response

As requested, we did not obtain written agency comments on a draft of this report. However, we discussed its contents with OASD/C3I and DISA

officials and the TMP Program Manager and Deputy Program Managers and have incorporated their views where appropriate.

Defense officials disagreed with our position that OASD/C3I has not provided the guidance and direction needed for TMP to complete its information engineering effort. They stated that the Defense Management Report Decision (DMRD) 918, signed on September 15, 1992, provides a vision for satisfying DOD-wide communications needs and established DISA as the central manager of the defense infrastructure with responsibility for providing an end-to-end information transfer capability. They agreed with us that this vision needs to be clarified as to the communications management roles and responsibilities of DISA and its relationship to other operational components.

Defense officials agreed that a business plan needs to be developed as part of the information engineering process and that the TMP information engineering effort should be completed before developing the telecommunications management system. However, they stated that an information system has to be developed to support DISN and to realize the cost savings associated with DISN. They stated that the budget cuts associated with DMRD 968 have forced them to adopt this strategy and shift resources to this effort. They also stated that the telecommunications management system developed as a result of their information engineering effort will most likely be different from the system supporting the current DISN effort.

While we believe that DMRD 918 and its implementation plan, approved on January 14, 1993, are essential steps in providing a vision for communications management, they do not clearly define DOD-wide communications management roles and responsibilities. Until roles and responsibilities are better clarified and articulated and a business plan is developed, TMP will not have the necessary prerequisites to guide its information engineering effort.

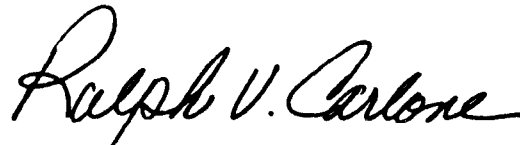
An information management system may be needed to support the initial DISN effort and to realize the cost savings associated with DISN. However, the goals of this effort are not the goals of TMP and the approach of this effort is not driven by the thorough business analysis required by TMP. To portray the information management system being developed to support DISN as the telecommunications management system resulting from the TMP effort is misleading. Until the information engineering effort is completed to determine the information and supporting processes needed

DOD-wide, Defense will not be able to develop an effective DOD-wide telecommunications management system. Further, without a telecommunications management system necessary to effectively manage DOD-wide communications, DOD will continue to spend money for communications injudiciously.

Our work was performed in accordance with generally accepted government auditing standards, between November 1991 and January 1993. As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from the date of this letter. At that time, we will send copies to the appropriate House and Senate committees; the Secretary of Defense; the Secretary of the Navy; the Secretary of the Air Force; the Secretary of the Army; the Director, Office of Management and Budget; and other interested parties. Copies will also be made available to others upon request.

This report was prepared under the direction of Samuel W. Bowlin, Director, Defense and Security Information Systems, who can be reached at (202) 512-6240. Other major contributors are listed in appendix II.

Sincerely yours,



Ralph V. Carlone
Assistant Comptroller General

Objective, Scope, and Methodology

The Chairman, Senate Committee on Governmental Affairs, asked us to review Defense's efforts to improve the management of its communications resources. Because of the importance of TMP in establishing the framework for effective DOD-wide communications resource management, our review focused on the extent to which DOD is effectively implementing the TMP.

To accomplish this objective, we interviewed Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence; Joint Chiefs of Staff's Office of the Director for Command, Control, Communications, and Computers; and Defense Information Systems Agency (DISA) officials responsible for TMP and for the future Defense Communications System. We also interviewed senior officials from DISA's Defense Commercial Communications Office and the Telecommunications Management Services Organization and senior military department and agency officials responsible for acquiring and managing communications resources. To assess the program's progress we reviewed: the status of TMP original taskings against milestones, shifts in program emphasis, additional taskings, progress in applying the information engineering methodology, and contractor status reports and products. We also reviewed DMRD 968 and related actions, DOD Directive 4640 on the Management of Base and Long-Haul Communications Equipment and Services, Defense's Data Communications Task Force Report, the DISN transition plan, military departments' communications acquisition procedures and practices, Defense Inspector General's reports, and other Defense memoranda relevant to communications acquisition and management.

Our work was conducted at the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Washington, D.C.; DISA headquarters, Arlington, Virginia; DISA's Defense Commercial Communications Office and the Telecommunications Management Service Organization, Scott Air Force Base, Bellevue, Illinois; the Air Force Telecommunications Command, Scott Air Force Base, Bellevue, Illinois; the Army Information Systems Command, Fort Huachuca, Arizona; the Navy Telecommunications Command, Washington, D.C.; the Corp of Engineers, Washington, D.C.; and the Defense Logistics Agency, Columbus, Ohio.

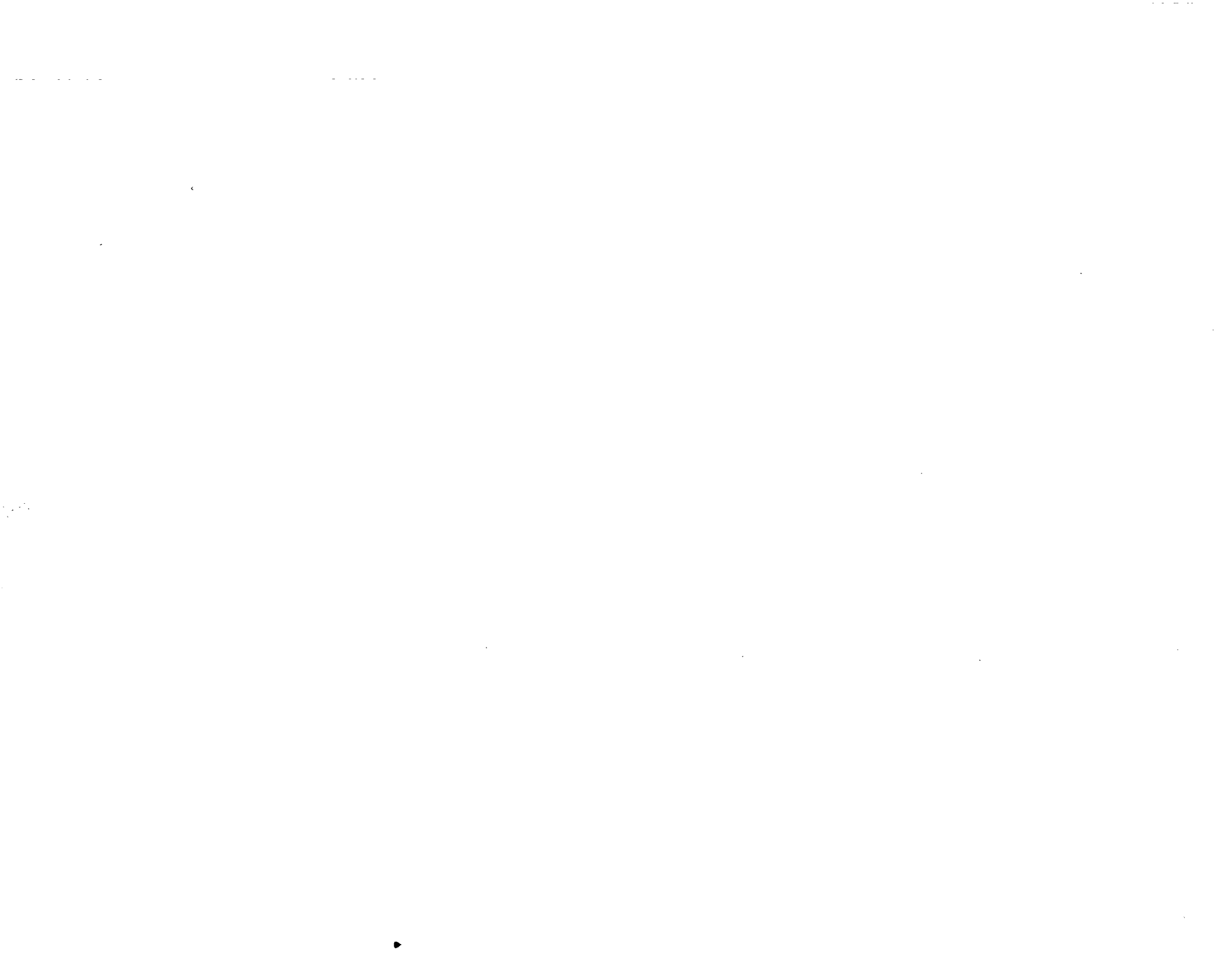
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