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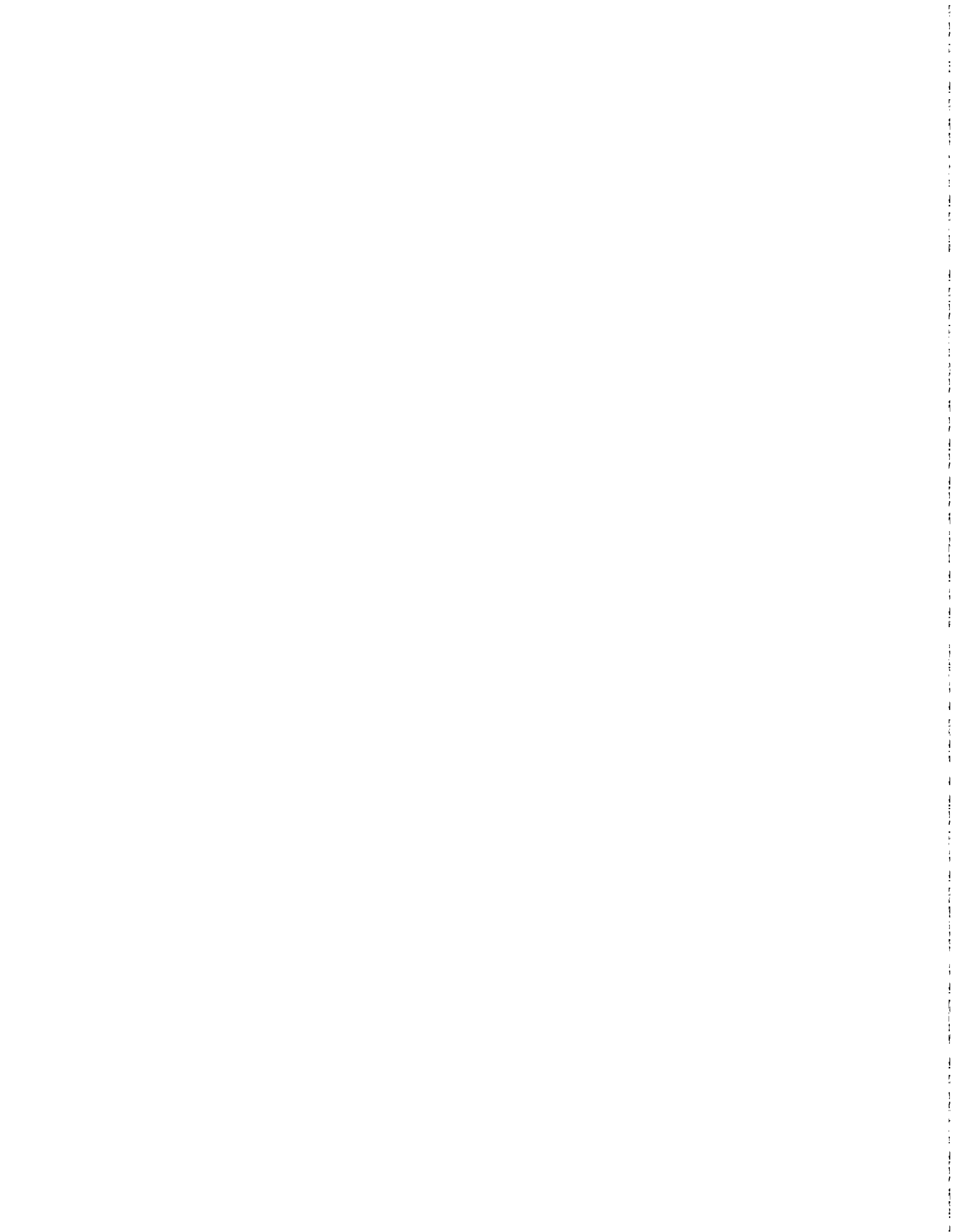
Report to the Chairman, Subcommittee on
Oversight, Committee on Ways and
Means, House of Representatives

October 1987

DATA
COMMUNICATIONS

Delays Hampering
Installation of IRS'
Communications
Replacement System







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

Information Management and
Technology Division

B-224135

October 8, 1987

The Honorable J. J. Pickle
Chairman, Subcommittee on Oversight
Committee on Ways and Means
House of Representatives

Dear Mr. Chairman:

The Internal Revenue Service (IRS) is in the process of replacing its existing data communications processing system and obsolete computer terminals with the new \$150 million Communications Replacement System. During your February 6, 1987, hearing on the IRS, you requested that we assist the Subcommittee in its oversight and evaluation of IRS' effort to install the new system nationwide.¹ As requested, we are monitoring the installation and testing of the new system at IRS' National Computer Center located in Martinsburg, West Virginia, and the Fresno, California, and Austin, Texas, service centers. This report discusses IRS' progress in installing and testing the new system since February 1987. We will continue to monitor and report on IRS' progress in installing and testing the new system.

IRS is conducting tests to find out whether the Communications Replacement System meets IRS requirements before it is installed in IRS' 10 service centers. As of August 17, 1987, IRS estimated that it had completed 45 percent of the system's scheduled tests to determine the ability of the system's hardware and software to work together. IRS further estimated that it would take an additional 6 weeks to complete the remaining tests. According to IRS, the additional time to complete the tests is needed because some of the contractor-written software did not work properly, other contractor software was delivered late, and a contractor-developed test plan was not acceptable to IRS and needed revision. As a result, nationwide installation of the system will be delayed by at least 5 weeks. (See appendix I.) IRS intended to have the system operational in two of its service centers by the start of the 1988 tax filing season.

¹Statement of James Watts, Associate Director, to the Subcommittee on Oversight, House Committee on Ways and Means (GAO/T-IMTEC-87-1, February 6, 1987). We previously reported on IRS' progress in installing the Communications Replacement System in our report entitled Data Communications: Thorough Testing and Workload Analysis Needed for IRS' Processors (GAO/IMTEC-87-3BR, October 14, 1986).

Because of the delay, IRS now plans to have the system operational in only one service center by that time. While IRS plans to install the system in at least three additional service centers by May 1988, it does not expect any serious disruption to the processing of tax returns and related data.

Status of System Acceptance Testing

IRS' communications processors are the computers through which all online taxpayer inquiries and corrections to tax returns must pass before information on the mainframe computers can be accessed. The existing communications processors are obsolete and have experienced reliability and capacity problems. As a result, IRS awarded a \$150 million contract in February 1986 to have these processors replaced with the new Communications Replacement System.

IRS plans to test the capabilities of the new system at its National Computer Center before placing it in service at any of its 10 service centers. This testing, called system acceptance testing, determines (1) the system's ability to process a certain work load in a given period of time, (2) the reliability of the system's hardware components, and (3) the ability of the system's hardware and software to work together. System acceptance testing was to be completed by August 15, 1987.

On June 14, 1987, a test was conducted to determine the Communications Replacement System's ability to process a certain work load in a specific period of time. This test is called a system operational capability test. Preliminary test results indicate that the system was able to meet IRS' requirements. However, IRS did not accept the results because software used to collect system performance data had not been delivered by the contractor at the time the test was administered.

Because the system was not complete when tested, IRS elected to rerun the system operational capability test on August 21, 1987. Preliminary results again showed that the system was able to meet IRS' processing requirements. IRS is currently verifying the second test's results and expects to have its analysis completed within 30 days. In addition, between June 28, 1987, and July 28, 1987, the system successfully completed a test to determine the reliability of its hardware components.

Between June 15, 1987, and August 15, 1987, IRS planned to test the ability of the system's hardware and software to work together. As of

August 17, 1987, IRS had completed 45 percent of this testing. IRS estimates that it will take until September 25, 1987, to complete the remaining tests. IRS officials responsible for managing the project attributed the 6-week delay in testing to 3 causes. First, some contractor-supplied software needed to conduct the test was not working properly at the start of the system acceptance test period. Second, other contractor software needed to conduct the test was not delivered. This software generates information on how well the system is working and processing its work load. Third, the System Acceptance Test Plan provided by the contractor was not acceptable to IRS. Accordingly, IRS had to spend time revising the test plan.

Nationwide Installation Delayed

Nationwide installation of the Communications Replacement System has been delayed because of the slippage in completing system acceptance testing, according to IRS officials. As a result, IRS will have to continue relying on its existing communications processing system to carry it through the 1988 tax processing year.

IRS had planned to have the new system operational in its Austin, Texas, and Fresno, California, service centers by the end of 1987. Due to slippage in the testing schedule, the system is now scheduled to be operational only at the Fresno center by this time. Installation at the remaining nine service centers is scheduled to be completed by November 1988. Installation at the Austin Service Center is to be completed by January 1988. Installation at the Atlanta, Georgia, and Ogden, Utah, service centers is to take place between February 1988 and May 1988, during IRS' peak tax processing period.

IRS officials recognize that there are risks associated with installing a new computer system in its service centers during the tax filing season. However, IRS officials believe that the system can be installed at the Atlanta and Ogden locations without adversely affecting the processing of tax returns and related data. The officials also believe that IRS' implementation strategy includes adequate safeguards for reducing the risk of nationwide installation problems during the upcoming tax processing season.

During the system testing, IRS is requiring that each service center have the ability to completely revert back to its old communications system. To accomplish this task, IRS, among other things, executed a contract modification with its contractor to require the terminals that will replace the old terminals to have the capability to interface with the

existing communications processor. Under the original contract, the replacement terminals were required to interface only with the new communications processor.

According to IRS, as of September 17, 1987, the contractor had completed the necessary modifications to enable the new terminals to interface with the existing communications processors. Agency officials also said that hundreds of new terminals have already been installed and are operating successfully. The officials further stated that the terminal replacement program is on schedule and should have a favorable impact on the 1988 tax processing season.

In addition, IRS has required that the system pass all testing at the National Computer Center, Fresno Service Center, and Austin Service Center before other service centers begin to install and test the system. IRS believes that this phased installation will minimize the possibility of system testing problems affecting multiple service centers.

IRS faces a major challenge by installing the Communications Replacement System in service centers during its peak processing period. This task is not going to be easy given the size and complexity of service center operations. If IRS cannot achieve a smooth transition from the old communications system to the new one, it could experience processing problems at its Atlanta and Ogden service centers during the upcoming tax processing season.

Objectives, Scope, and Methodology

We carried out our field work from February 1987 to August 1987 at IRS' National Computer Center in Martinsburg, West Virginia, and its national office in Washington, D.C. Our information was obtained by monitoring IRS' weekly status reports and by attending weekly status meetings between the contractor and IRS officials. In addition, we reviewed IRS' System Acceptance Test Plan, obtained supporting documentation, observed testing conducted at the National Computer Center, and interviewed IRS and contractor personnel responsible for conducting system acceptance tests on the new system at the Computer Center. Our work was done in accordance with generally accepted government auditing standards.

Agency Comments

IRS generally agreed with the report's contents. The agency provided some additional technical information that has been incorporated in the report where appropriate. (See appendix II.)

We are sending copies of this report to the Secretary of the Treasury; the Commissioner of IRS; the Director, Office of Management and Budget; interested congressional committees; and other interested parties on request.

Sincerely yours,

A handwritten signature in cursive script that reads "Ralph V. Carlone".

Ralph V. Carlone
Director

Planned and Current Milestones for Completing Communications Replacement System Acceptance Testing

Order of installation	Milestones as of January 29, 1987	Milestones as of August 10, 1987	Slippage in weeks
National Computer Center	08/15/87	09/25/87	6
Fresno Service Center	10/30/87	12/02/87	5
Austin Service Center	12/23/87	01/27/88	5
Allanta Service Center	02/17/88	03/23/88	5
Ogden Service Center	04/13/88	05/18/88	5
Memphis Service Center	06/09/88	07/14/88	5
Cincinnati Service Center	06/09/88	07/14/88	5
Brookhaven Service Center	08/03/88	09/07/88	5
Kansas City Service Center	08/03/88	09/07/88	5
Philadelphia Service Center	09/28/88	11/02/88	5
Andover Service Center	09/28/88	11/02/88	5

Source: IRS Communication Replacement System Status Reports dated January 29, 1987 and August 10, 1987

Agency Comments



COMMISSIONER

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON D C 20224

SEP 17 1987

Mr. James R. Watts
Associate Director
Information Management and Technology Division
United States General Accounting Office
Washington, DC 20548

Dear Mr. Watts:

We appreciate the opportunity to review your recent draft Report entitled "Data Communications: Delays Hampering Installation of IRS' Communications Replacement System".

We generally agree with its contents with two exceptions:

On page 2 of the report, GAO states that "IRS plans to install the system in at least three service centers during the busy tax processing season". The Austin Service Center is scheduled for completed installation by January 27, 1988. We do not consider January to be a peak processing month so actually only two Centers will be installed during the peak season.

On page 6, the following sentences should be added at the end of the second paragraph:

"The contractor has made the necessary hardware and software modifications to enable the new terminals to interface with the existing communications processors. Hundreds of the new terminals have already been installed and are operating successfully with substantial improvements in cost and reliability over the old terminals they are replacing. The replacement program is continuing on a schedule that will facilitate processing in the 1988 filing season."

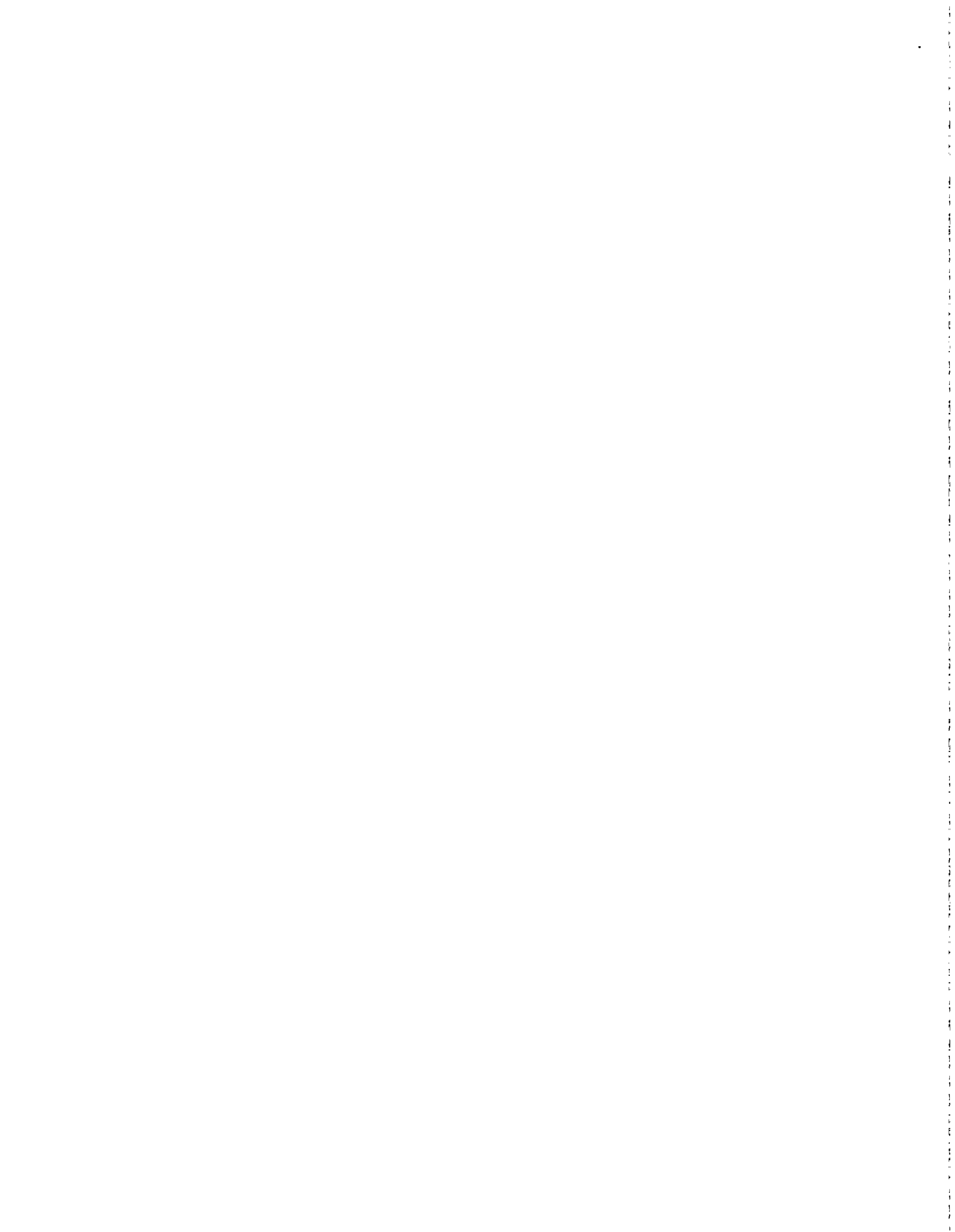
We hope you find these comments useful in preparing your final report. We have also provided your staff with several minor suggested revisions to the report text.

With best regards,

Sincerely,

Now on p. 3

Now on p. 4.



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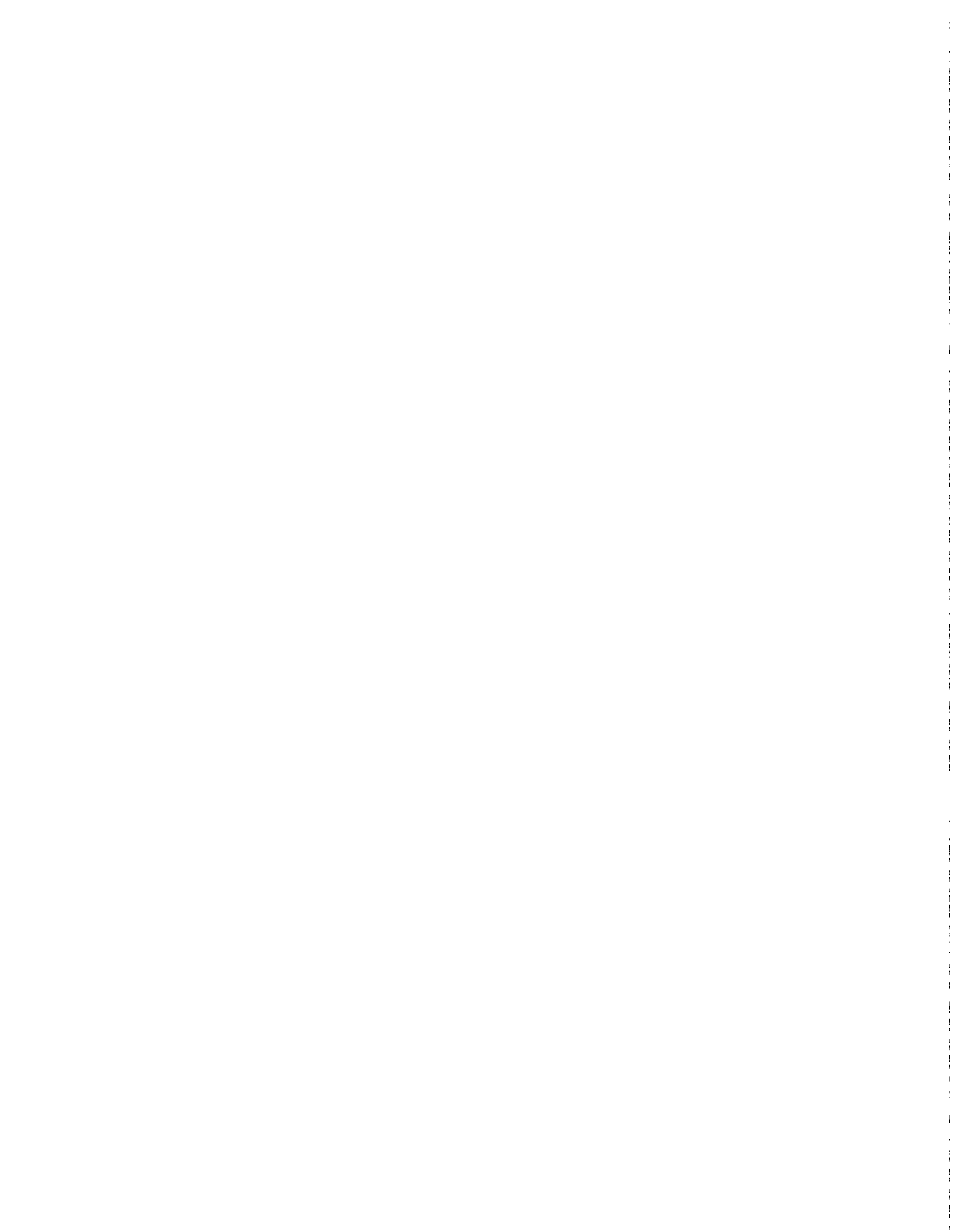
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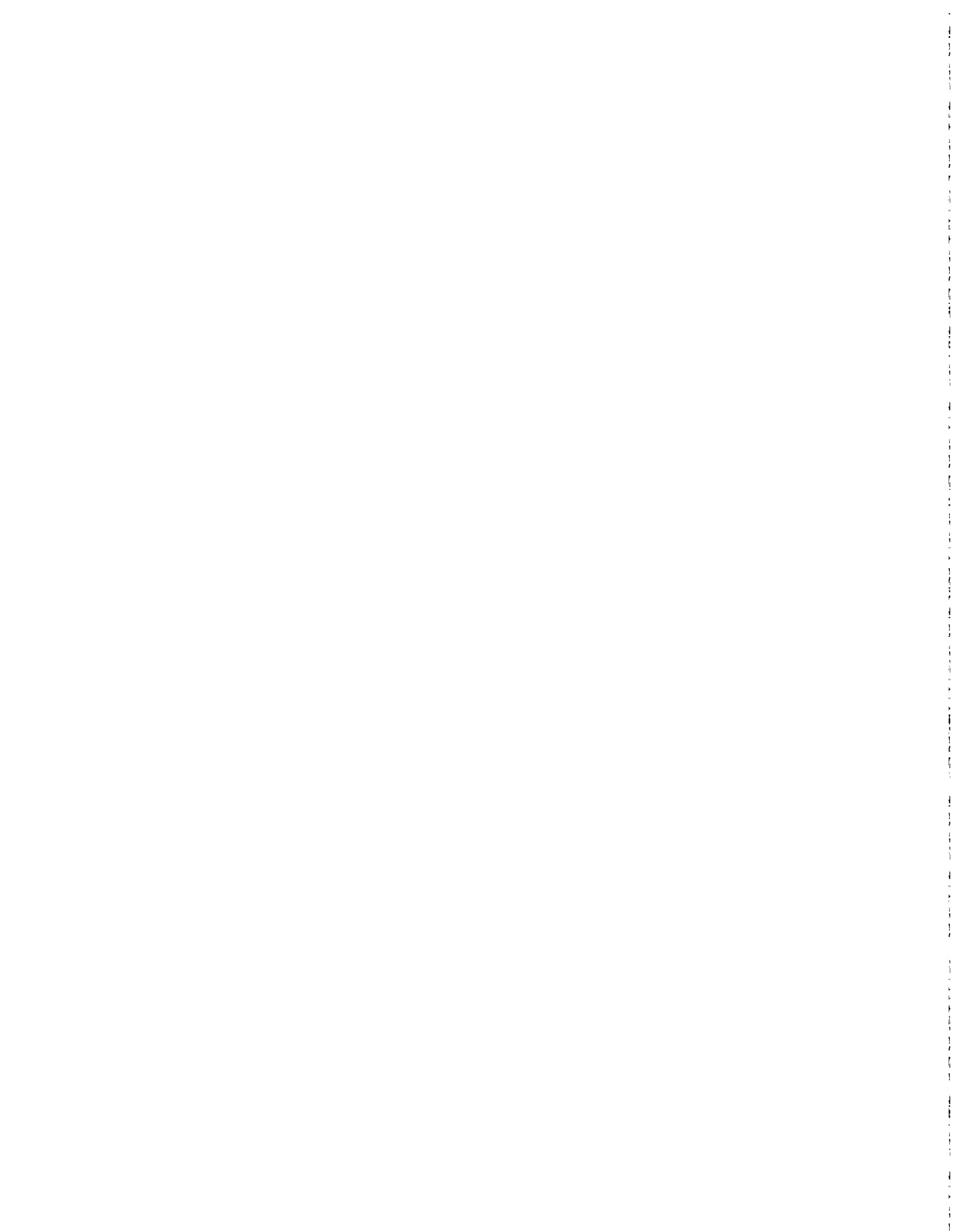
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