

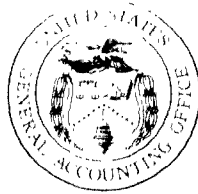
GAO

Briefing Report to the Chairman,  
Subcommittee on Water, Power, and  
Offshore Energy Resources, Committee  
on Interior and Insular Affairs, House  
of Representatives

November 1991

# TRANS-ALASKA PIPELINE

## Ensuring the Pipeline's Security



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Resources, Community, and  
Economic Development Division

B-246125

November 27, 1991

The Honorable George Miller  
Chairman, Subcommittee on Water,  
Power, and Offshore Energy Resources  
Committee on Interior and Insular Affairs  
House of Representatives

Dear Mr. Chairman:

This briefing report responds to your request that we review the security of the Trans-Alaska Pipeline System (TAPS). Specifically, it addresses (1) what federal and state agencies have done to assess the vulnerability of TAPS to terrorist disruption and (2) what actions these agencies and the Alyeska Pipeline Service Company (Alyeska)<sup>1</sup> have taken to protect the pipeline. We briefed your staff on October 3, 1991. This briefing report provides the findings and observations presented in that briefing.

Your request also asked us to review the adequacy of federal and state regulatory oversight of TAPS to ensure (1) operational safety, (2) oil spill response capabilities, and (3) TAPS' ability to protect the environment. Our findings and recommendations relating to these issues were addressed in our report entitled Trans-Alaska Pipeline: Regulators Have Not Ensured That Government Requirements Are Being Met (GAO/RCED-91-89, July 19, 1991).

In summary, we found that while there are no federal requirements for TAPS or any other oil pipeline to have

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<sup>1</sup>Alyeska was created by an agreement between seven companies. The current owners are Amerada Hess Pipeline Corp.; ARCO Transportation Alaska, Inc.; BP Pipelines (Alaska) Inc.; Exxon Pipeline Co.; Mobil Alaska Pipeline Co.; Phillips Alaska Pipeline Corp.; and Unocal Pipeline Co. Alyeska directed the design and construction of TAPS and is responsible for conducting pipeline operations within the parameters established by federal and state requirements.

vulnerability assessments,<sup>2</sup> both the Department of Energy and Alyeska have conducted such assessments for TAPS. Likewise, although there are no federal requirements for a security program, Alyeska has its own security program.

In addition, Alyeska has made arrangements with various federal and state military and law enforcement agencies for additional assistance in the event of any illegal or hostile activity or incident along the pipeline. The Department of Justice's Federal Bureau of Investigation (FBI), the Department of Defense's Alaskan Command, the Alaska State Troopers, and Alaska's National Guard all described Alyeska's security program as professional and supported by both federal and state resources in a coordinated manner. The actions taken by Alyeska to increase its security and to work closely with federal and state agencies during Operation Desert Shield/Desert Storm appear to demonstrate that when needed, the appropriate military and law enforcement agencies were able to assist in a coordinated approach to protecting TAPS.

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In conducting our review, we interviewed officials from the Department of Energy, the Department of Defense's Alaskan Command and Defense Investigative Service, the FBI, the Federal Emergency Management Agency, Alaska's National Guard, the Alaska State Troopers, other local law enforcement agencies, and Alyeska. With the exception of the FBI, we reviewed the plans and studies that these agencies have developed relating to the security of TAPS.

The FBI would not provide access to its plan for responding to potential acts of terrorism along the pipeline. FBI officials in Washington told us that this plan contains proprietary information voluntarily provided by Alyeska and that to provide this information to any outside source would affect the FBI's ability to obtain this kind of cooperation in the future. The FBI also would not provide us with documentation on its Infrastructure Vulnerability/Key Asset

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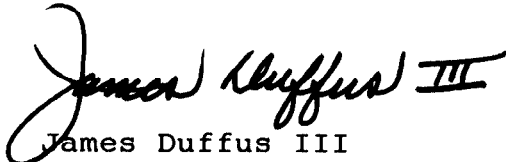
<sup>2</sup>Vulnerability assessments identify essential portions of a facility or operation that are vulnerable to sabotage and other hostile or destructive acts by assessing the adequacy and effectiveness of their physical security systems and emergency preparedness measures.

Program. FBI officials, however, would not state a reason for not providing the unclassified information on this program.

We discussed the results of our work with responsible agency officials from the Departments of Defense, Energy, and Justice; the Federal Emergency Management Agency; and Alyeska and the state of Alaska. These officials generally agreed with the facts included in this briefing report and with our conclusion. We conducted our review between May 1991 and October 1991 in accordance with generally accepted government auditing standards.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this briefing report until 10 days from the date of this letter. At that time, we will send copies to the Secretaries of Defense, Energy, Interior, and Transportation; the Administrator, Environmental Protection Agency; the Acting Attorney General; the Commissioner, Alaska Department of Public Safety; Alyeska; and other interested parties and make copies available to others upon request. Please contact me at (202) 275-7756 if you or your staff have any questions concerning this briefing report. Other major contributors to this briefing report are listed in appendix I.

Sincerely yours,



James Duffus III  
Director, Natural Resources  
Management Issues

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## ABBREVIATIONS

DOD	Department of Defense
DOE	Department of Energy
FBI	Federal Bureau of Investigation
GAO	General Accounting Office
TAPS	Trans-Alaska Pipeline System

## SECTION 1

### BACKGROUND

The Trans-Alaska Pipeline System (TAPS) transports nearly 25 percent of the nation's domestically produced oil from Alaska's North Slope oil reserves to the terminal facility at Port Valdez on Prince William Sound. As such, the continued safe operation and security of the pipeline is important to the nation's energy needs.

The Alyeska Pipeline Service Company (Alyeska)<sup>1</sup> directed the design and construction of TAPS and is responsible for conducting pipeline operations. Built between 1974 and 1977 on federal, state, and private lands within a narrow corridor, the 800-mile-long pipeline system and its series of 10 pump stations move about 2 million barrels of oil per day across Alaska. The 48-inch-diameter pipeline crosses 3 mountain ranges and about 800 rivers and streams.

TAPS, like other pipelines, is vulnerable to terrorist disruption. To minimize these vulnerabilities, Alyeska, with support from various federal and state military and law enforcement agencies, provides security for TAPS.

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<sup>1</sup>The Alyeska Pipeline Service Company was created by an agreement between seven companies. The current owners are Amerada Hess Pipeline Corp.; ARCO Transportation Alaska, Inc.; BP Pipelines (Alaska) Inc.; Exxon Pipeline Co.; Mobil Alaska Pipeline Co.; Phillips Alaska Pipeline Corp.; and Unocal Pipeline Co.

## SECTION 2

### OBJECTIVES, SCOPE, AND METHODOLOGY

#### OBJECTIVES

- What have federal and state agencies done to assess the vulnerability of TAPS to terrorist disruption?
- What actions have these agencies and Alyeska taken to protect the pipeline?

#### SCOPE AND METHODOLOGY

- Interviewed officials of, and reviewed documentation provided by, the Department of Energy (DOE); the Department of Defense's (DOD) Alaskan Command<sup>1</sup> and Defense Investigative Service; the Federal Emergency Management Agency; Alaska's National Guard; Alaska's Department of Public Safety, including the Alaska State Troopers; and Alyeska.
- Interviewed officials from the Federal Bureau of Investigation (FBI) to discuss the FBI's efforts to ensure TAPS' security. The FBI would not provide access to its plan for responding to potential acts of terrorism along the pipeline. FBI officials in Washington, D.C., told us that this plan contains proprietary information voluntarily provided by Alyeska and that to provide this information to any outside source would affect the FBI's ability to obtain this kind of cooperation in the future. The FBI also would not provide us with documentation on its Infrastructure Vulnerability/Key Asset Program. FBI officials, however, would not state a reason for not providing the unclassified information on its program.
- Discussed actions taken by federal and state agencies and Alyeska during Operation Desert Shield/Desert Storm to ensure the security of TAPS.

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<sup>1</sup>DOD's Alaskan Command is responsible for implementing a portion of the operations plans for the defense of the United States--in particular, Alaska.



- With the exception of the plan developed by the FBI, we reviewed plans prepared and/or updated by the agencies to ensure TAPS' security. Although we were unable to review the FBI's plan, this did not materially affect our ability to conduct our review because the FBI is only one of many law enforcement or military agencies that would be called on to assist in the protection of TAPS.
  
- We conducted our review between May 1991 and October 1991 in accordance with generally accepted government auditing standards.

## SECTION 3

### FEDERAL SECURITY REQUIREMENTS

There are no overall federal security requirements, including performance of a vulnerability assessment,<sup>1</sup> for TAPS or any other oil pipeline. Nevertheless, Executive Order 12656 and the Oil Pollution Act of 1990 address the issue of security for facilities such as pipelines.

#### EXECUTIVE ORDER 12656

The purpose of this 1988 order is to ensure that the United States has sufficient capabilities at all levels of government to meet essential defense and civilian needs during any national security emergency. Among other things, this order requires each agency to identify essential assets--both military and civilian--and to ensure their protection. It is up to each federal agency to identify assets essential to its operations.

In response to this order, DOD developed the Key Assets Protection Program to identify assets essential to defense needs. DOD describes key assets as industrial facilities that are essential for DOD to mobilize, deploy, and sustain military forces in a national security emergency. Once a facility is listed as a key asset, the Defense Investigative Service may perform a vulnerability assessment, with the owner's permission. Once the assessment is completed, DOD develops a plan to defend the facility. As of July 1991, DOD had about 1,000 facilities on its key assets list.

Federal civil departments and agencies are provided the opportunity through the Federal Emergency Management Agency to nominate assets for DOD's Key Assets Protection Program. In addition, the Federal Emergency Management Agency is chairing an interagency working group to consider the type of guidance needed to further assist other federal agencies in identifying their essential assets. However, this working group is in the early stages of its activities and, as yet, has set no time frame for finalizing this guidance.

FBI officials in Washington, D.C., told us that the FBI has also developed a program to respond to the Executive Order. According to these officials, as part of its program, called the Infrastructure Vulnerability/Key Asset Program, the FBI has

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<sup>1</sup>Vulnerability assessments identify essential portions of a facility or operation that are vulnerable to sabotage and other hostile or destructive acts by assessing the adequacy and effectiveness of their physical security systems and emergency preparedness measures.

identified key civilian assets that if destroyed, would significantly affect the country's infrastructure.

Oil Pollution Act of 1990

This act establishes a Presidential Task Force to comprehensively review TAPS' operations. The task force is to be composed of representatives from the Departments of the Interior and Transportation, the Environmental Protection Agency, the Office of Technology Assessment, and the state of Alaska. Among other things, the act requires the task force to advise the President, the Congress, and the Governor of Alaska of whether improvements are necessary for the security of TAPS. However, as of October 1991, the Congress had not appropriated funding for the task force.

## SECTION 4

### VULNERABILITY ASSESSMENTS

Although not required, two vulnerability assessments have been completed for TAPS:

- SRI International (1981).
- DOE (draft-1986).

#### SRI INTERNATIONAL

- Alyeska contracted with SRI International for a study to test security equipment in an arctic environment, and to identify vulnerable points along the pipeline system. Among other things, the study described current security measures and identified vulnerable areas along TAPS and made specific recommendations on how to improve security in certain areas. SRI officials followed up on Alyeska's responses to some of their recommendations in 1981 and concluded that Alyeska's actions essentially addressed their recommendations. Alyeska's Chief of Security also told us that Alyeska enhanced its security measures in certain areas following this study.

#### DOE

- Because of increasing worldwide terrorism and the volume of domestically-produced oil transported, DOE initiated, and Alyeska voluntarily participated in, a vulnerability assessment of TAPS in 1986. DOE identified several vulnerable areas, but its overall conclusion was that TAPS' security was a model for other pipelines to follow. Alyeska officials reviewed the draft, but the report was never finalized because of DOE's concern that final publication would bring attention to vulnerabilities which, if exploited, could affect the security of the pipeline.

## SECTION 5

### OTHER TAPS SECURITY ACTIVITIES

While not formal vulnerability assessments, there have been analyses of security at specific points along the pipeline, including a site-specific study; exercises to test security; and a survey completed during Operation Desert Shield/Desert Storm to familiarize law enforcement and military personnel who may assist in protecting TAPS.

#### SITE-SPECIFIC STUDY

- In 1985, Alyeska had a contractor assess whether the threat of a hostile action against a key facility along the pipeline made it a major security concern. The study concluded that because of existing security measures, the threat of a successful hostile action was minimized. Nevertheless, the study made several recommendations to further increase security at this facility. Alyeska's Chief of Security told us that he considered all of the recommendations in the report, and acted on most of them.

#### EXERCISE TO TEST SECURITY

- Operation Brimfrost was the code name for winter exercises conducted by U.S. military forces in Alaska. Military forces have exercised twice, once in 1985 and again in 1987, to secure portions of the pipeline. These exercises tested the ability of the military forces to physically secure key facilities.

#### OPERATION DESERT SHIELD/DESERT STORM SURVEY

- In 1990, during Operation Desert Shield/Desert Storm, Alyeska sponsored a field survey of the entire pipeline by federal and state military and law enforcement agencies (including DOD's Alaskan Command, the FBI, Alaska State Troopers, and Alaska's National Guard). The purpose of the survey was to familiarize agency personnel with specific TAPS facilities, security measures, and personnel. The result of this survey was that each agency updated or developed plans for protecting TAPS.<sup>1</sup>

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<sup>1</sup>We reviewed all of these agencies' plans, with the exception of the FBI's. However, FBI officials told us they also developed a plan to protect TAPS.

## SECTION 6

### TAPS' PROTECTION

Alyeska is the first line of defense for protecting TAPS, and it initiates actions for further assistance if needed. In addition, federal and state military and law enforcement agencies have plans to assist Alyeska in protecting TAPS under certain conditions.

#### ALYESKA RESOURCES FOR PROTECTING TAPS

- Armed guards 24 hours per day at the pump stations and other key facilities.
- Aerial and ground surveillance of the pipeline.
- Fencing of pump stations and certain facilities.
- Controlled access to certain facilities.
- Intrusion detection systems at certain facilities.
- Dedicated communications.

#### FEDERAL AND STATE RESOURCES FOR PROTECTING TAPS

The state and federal governments have plans to assist in protecting the pipeline. The Alaska State Troopers, Alaska's National Guard, the FBI, and DOD's Alaskan Command all have specific plans to protect TAPS. If Alyeska is unable to cope with a given situation, it can call upon any of these agencies for assistance.

- The Alaska Department of Public Safety is responsible for state law enforcement officers, including uniformed state troopers and local police, who could respond to any illegal activity. The Alaska State Troopers have a plan that outlines notification procedures, and initial response and investigative responsibilities for protecting TAPS. FBI officials told us that after the joint survey, the FBI also developed a plan to respond in the event of such crimes.
- Alaska's National Guard could be called out by the Governor of Alaska to provide assistance to civilian authorities. The Guard has prepared a plan, with the stated objective of providing additional security at specific sites identified by Alyeska as key facilities. The Guard would provide equipment and personnel to strengthen existing Alyeska security capabilities. DOD's Alaskan Command has developed a similar plan to assist in defending key facilities along the pipeline in the event of a hostile action.

## SECTION 7

### SECURITY DURING OPERATION DESERT SHIELD/DESERT STORM

- Alyeska increased its security of TAPS.
- Frequent security briefings were held between Alyeska and military and law enforcement agencies.
- A joint Alyeska/military and law enforcement survey of TAPS was conducted.
- Plans/strategies were prepared or updated by Alaska State Troopers, Alaska's National Guard, and DOD's Alaskan Command to assist in protecting TAPS. FBI officials told us that they also developed a plan.
- Emergency communications were installed.
- DOD's Alaskan Command nominated certain TAPS facilities for inclusion in DOD's Key Assets Protection Program.

### INCREASED SECURITY BY ALYESKA

Alyeska officials told us that they spent almost \$3 million to provide increased security for TAPS during Operation Desert Shield/Desert Storm.

### FREQUENT BRIEFINGS

Federal and state officials told us that during the crisis, weekly, and eventually daily, meetings took place between Alyeska and military and law enforcement agencies. Since the end of the crisis, these briefings have been held quarterly.

### JOINT SURVEY OF TAPS

Alyeska sponsored a survey of the pipeline and its related facilities by military and law enforcement agencies and participated with these agencies in meetings to discuss intelligence and security issues and potential threats to the pipeline.

### PLANS/STRATEGIES PREPARED OR UPDATED

The joint survey provided the agencies with the information they needed, including detailed maps and drawings of key facilities, to prepare or upgrade plans to protect the pipeline.

EMERGENCY COMMUNICATION LINES INSTALLED

Alaska National Guard officials told us that Alyeska installed emergency communication lines to certain National Guard armories and the Alaska State Troopers' command center. These and a secure line that DOE installed to Alyeska headquarters remain in place.

DOD'S ALASKAN COMMAND NOMINATES CERTAIN TAPS FACILITIES FOR KEY ASSETS PROTECTION PROGRAM

In October 1990, because of increasing concern over actions taking place during Operation Desert Shield, DOD's Alaskan Command nominated certain TAPS facilities for inclusion on the Key Assets Protection Program listing. As of October 1991, the nominations were being processed.



## SECTION 8

### CURRENT VIEWS OF THE SECURITY COMMUNITY

The Alaska State Troopers, local law enforcement groups, Alaska's National Guard, the FBI, DOE, and DOD's Alaskan Command all praised Alyeska's security efforts and noted its cooperation. They believe that Alyeska has an experienced and trained security staff and coordinates effectively with federal and state military and law enforcement agencies. Nevertheless, they also stressed that it is impossible to completely secure 800 miles of pipeline and related facilities from a determined attack of trained terrorists.

## SECTION 9

### CONCLUSIONS

DOE concluded in its draft vulnerability assessment in 1986 that Alyeska's security program was a model for other pipelines to follow. In addition, the Alaska State Troopers, Alaska's National Guard, the FBI, and DOD's Alaskan Command all described Alyeska's current security program as a professional organization that is backed up by both state and federal resources in a coordinated manner.

All agencies gave Alyeska high marks for its cooperation during Operation Desert Shield/Desert Storm in providing access to information relating to TAPS' security. The actions taken by Alyeska and military and law enforcement agencies during Operation Desert Shield/Desert Storm appear to demonstrate that when needed, the appropriate law enforcement and military commands were able to implement a coordinated approach to protect TAPS.

The comments of the military and law enforcement agencies and the actions taken during Operation Desert Storm/Desert Shield lead us to believe that Alyeska has taken appropriate steps to protect TAPS.

MAJOR CONTRIBUTORS TO THIS BRIEFING REPORT

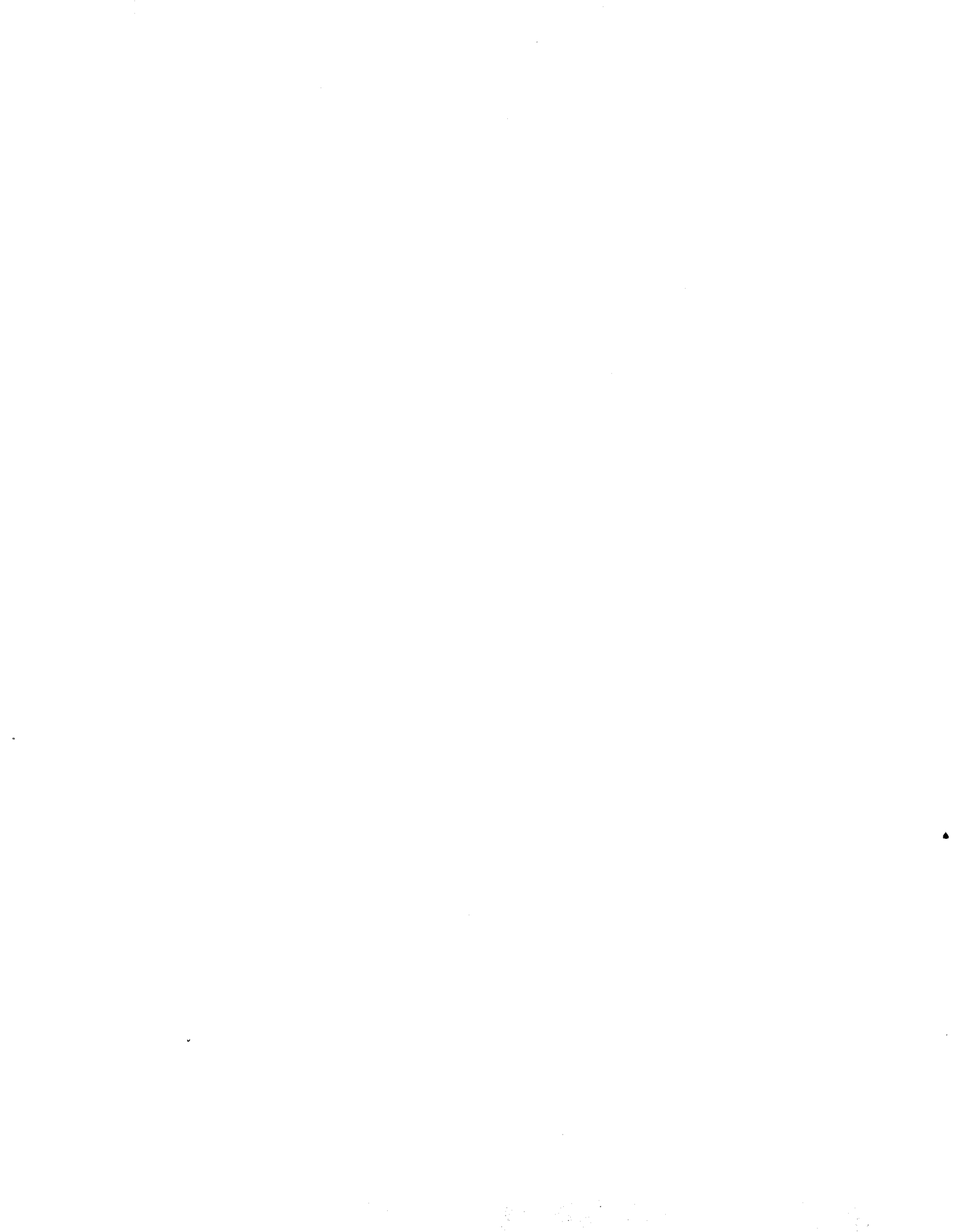
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