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Federal film libraries and depositories are storing film under conditions that do not meet environmental standards recommended by the film industry, and as a result, valuable historical films may be deteriorating. Factors contributing to this condition are facilities not specifically designed for film storage, inadequate storage space, and inadequate funds for proper storage facilities. Findings/Conclusions: Because of large film accessions, some storage areas in the National Archives are filled beyond shelf capacity. Many of these films appear to have no archival value and raise questions as to whether they should be retained in the Archives. These kinds of accessions are partially caused by the lack of detailed criteria for determining the archival significance of films and other records. Many Federal departments and agencies have inadequate film inspection, maintenance, and preservation programs; as a result, agency officials do not know the condition of their own motion picture holdings. They attribute this problem to a lack of funds and personnel. Management attention is needed to see that priorities are set and procedural guidelines for the handling of film are promulgated. Recommendations: The Director of the Office of Management and Budget should: review and evaluate the storage conditions at Federal film libraries, depositories, and distribution centers and require improvements where needed; establish procedures requiring Federal audiovisual facilities to improve or establish film inspection, maintenance, and preservation programs; and establish a program and place responsibility for continuing Government-wide audiovisual policy direction, agency coordination, and oversight. The Archivist of the United States should: accelerate programs to screen movie film holdings, removing nonarchival films; establish standards for determining the retention period and archival value of films; take action to convert archival nitrate film to safety base film holdings and establish cost estimates, priorities, and goals, to inspect, clean, rejuvenate, or reproduce these films

as warranted; and implement a comprehensive film inspection and maintenance program. (RES)

6759

BY THE COMPTROLLER GENERAL

# Report To The Congress

OF THE UNITED STATES

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RELEASED  
6/21/78

## Valuable Government-Owned Motion Picture Films Are Rapidly Deteriorating

Many valuable and historical Government-owned motion picture films are not being properly cared for and are deteriorating in various Federal agencies. Immediate action is necessary or film documenting the Nation's history will never be seen by present or future generations.

The Office of Management and Budget, General Services Administration, Department of Defense, and United States Information Agency must act to improve the storage, inspection, maintenance, and preservation of films.

The Administrator of General Services should expedite removal of non-historical films from the National Archives and improve the guidance to determine the retention periods and value of historical films.



LCD-78-113

JUNE 19, 1978



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-185085

To the President of the Senate and the  
Speaker of the House of Representatives

This report, resulting from Congressman Richard L. Ottinger's concern over the extent of Federal efforts to properly store, maintain, and preserve Government-owned film, describes the storage conditions and film maintenance programs of several agencies. We also discuss the need for more centralized management of, and attention to, all Federal audiovisual activities to insure Government-wide participation and coordination.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; the Administrator of General Services; and the Director, United States Information Agency.

  
ACTING Comptroller General  
of the United States

D I G E S T

About 800-million feet of film stored at various Federal departments and agencies are deteriorating because the facilities were not designed for film storage and have inadequate temperature and relative humidity controls and are filled beyond capacity. Moreover, film inspection, maintenance, and preservation programs are inadequate. This is caused partially by insufficient funds to correct facility deficiencies and to provide personnel to conduct preservation programs. (See pp. 1 to 24.)

Because of large film accessions, some storage areas in the National Archives are filled beyond shelf capacity. Many of these films appear to have no archival value and raise doubts as to whether they should be maintained in the National Archives. These kinds of accessions are partially caused by the lack of detailed criteria for determining the archival significance of films and other records. (See pp. 25 to 30.)

Nitrate base film in several National Archives historical collections--about 26-million feet--are the most difficult to preserve. They are chemically unstable, have a high deterioration rate, and are a serious fire hazard; the only feasible means of preserving them is to reproduce them on safety base film. Present plans call for reproducing about 1-million feet of the nitrate film annually. However, during the plan's first year in operation, less than 400,000 feet were reproduced. Since nitrate base film can decompose in as few as 15 years, even the youngest nitrate film (from 1952) may be lost before conversion is completed. (See pp. 17 to 20.)

GAO's review also showed that more efficient and effective operation of Federal motion picture activities can be achieved by improving coordination of production resources, increasing facilities' use through greater interagency sharing, and by establishing an organization with responsibility for Government-wide policy development and coordination. (See pp. 31 to 34.)

To expedite issuance of this report GAO did not obtain written comments from the agencies. However, to confirm the facts presented, GAO discussed the report with agency officials upon completion of its work. With one exception, there was general agreement on the facts. Archives officials believe they have adequate criteria and standards for determining what films are archival. As discussed on pages 28 and 29, GAO does not agree.

The Director, Office of Management and Budget, with support and assistance from the Federal Audiovisual Committee, should:

- Review and evaluate the storage conditions at Federal film libraries, depositories, and distribution centers, and require improvements where needed.
- Establish procedures requiring Federal audiovisual facilities to improve or establish film inspection, maintenance, and preservation programs.
- Establish a program and place responsibility for continuing Government-wide audiovisual policy direction, agency coordination, and oversight.

GAO further recommends that the Administrator of General Services direct the Archivist of the United States to

- accelerate programs to screen movie film holdings, removing nonarchival films;

- establish and promulgate detailed standards for determining the retention periods and archival value of films;
- take effective action to convert archival nitrate film to safety base film and dispose of the nitrate film once it is converted;
- evaluate safety film holdings and establish cost estimates, priorities, and goals to inspect, clean, rejuvenate, or reproduce these films as warranted; and
- implement a comprehensive film inspection and maintenance program.

The Administrator should also direct the Commissioner, Public Buildings Service, to

- upgrade environmental conditions in the National Archives Building by providing adequate temperature and relative humidity controls and
- assist agencies in achieving adequate environmental conditions for film storage. (See pp. 35 and 36.)

Although ongoing and recommended changes may improve film storage and maintenance, GAO believes any ultimate solution will require additional staff and funds. When evaluating funding requests for film preservation, the Congress should consider the Government's investment in its films and how these photographic documents can enlighten present and future generations. (See pp. 36 and 37.)

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**ABBREVIATIONS**

<b>DOD</b>	<b>Department of Defense</b>
<b>GAO</b>	<b>General Accounting Office</b>
<b>GSA</b>	<b>General Services Administration</b>
<b>OMB</b>	<b>Office of Management and Budget</b>
<b>USIA</b>	<b>United States Information Agency</b>

## GLOSSARY

**Cleaning**--as films are used they must be periodically cleaned to remove dust and dirt and minimize damage. The most common cleaning methods are:

- (1) **Manual lubrication**--involves drawing the entire film between two cloths that have been moistened using a recommended cleaner/lubricant.
- (2) **Wet cleaning**--involves cleaning and lubricating the film mechanically.
- (3) **Ultrasonic**--the most technologically advanced machine for cleaning film today. Film, when passed through a solution, is subjected to sound frequencies that vibrate off dust and dirt.

**Duplicate negative**--a picture negative made from either positive or negative film.

**Fading**--decomposition which causes the image to take on a yellow or brown coloration.

**Film base**--the plastic or nitrate material which is coated with a photographic emulsion.

**Geiatin**--the coating on a film base in which light-sensitive materials are dispersed to record a photographic image.

**Image**--photographically obtained likeness recorded on a processed, light-sensitive material.

**Image deterioration**--occurs when the photographically obtained likeness produced on the film begins to degrade. The picture may fade, losing color and clarity, or it may deteriorate to a point of losing the entire picture.

**Master**--film which is usually used to produce other film copies.

**Negative**--film on which the brightness of the photographic likeness is recorded opposite the brightness of the film subject. In color film, the hues are usually complementary to the hues of the subject.

Nitrate deterioration--the chemical instability of nitrate base film will eventually cause it to decompose. The stages of decomposition may be briefly summarized as (1) the film discolours, (2) it becomes tacky, (3) it becomes soft, bubbly, and emits a noxious odor, (4) it forms a solid mass, and (5) it degenerates into acrid brown powder.

Obsolete prints--films that are not viewed because the information recorded on them is no longer useful.

Original footage--film originally shot in the camera and processed to produce either a negative or a positive image.

Original negative--the raw film that was exposed in a camera and processed to produce a negative image.

Photographic emulsion--light-sensitive material dispersed in a medium (usually gelatin) to record the photographic image.

Preprint--a copy of a film used only to make other copies. It is not used for viewing. Examples are master positives or duplicate negatives.

Print--generally a film copy.

Rejuvenation--generally involves chemical removal of dirt, scratches, and abrasions; stretching shrunken film; repairing tears or other damage; and treating the film with a chemical preservative.

Release print--a film used for general distribution and exhibition.

Stock footage--primarily segments of film which were not used in the final motion picture.

## CHAPTER 1

### INTRODUCTION

We reviewed Federal agencies' storage and maintenance of motion picture film. This review was requested by Congressman Richard L. Ottinger who was concerned whether Federal agencies have adequate film maintenance programs to care for and preserve Government-owned film.

Since World War I, the Federal Government has made an estimated 100,000 films on every subject from accident prevention to zip codes--an average of 2,000 films a year. Federal agencies also produce millions of feet of documentary film each year which are stored in Federal film libraries. Motion picture holdings at the locations we visited were about 800-million feet of film--enough film to wrap around the Earth more than six times. At an estimated printing cost of \$0.06 per foot, it would cost over \$47.9 million just to reproduce this footage, aside from any film production costs. Moreover, the films' value as a useful communications media and their potential historical value could far exceed original production or printing costs.

Many Federal agencies lack adequate facilities and maintenance programs to properly care for movie film; therefore, valuable, historical, and irreplaceable film, such as that of World War II, may deteriorate to a point where it is no longer useful, cannot be reproduced, and may eventually be lost forever. Footage from Federal film libraries also has commercial value. Recently, films were used in weekly television shows such as the "Bionic Woman" and "Rich Man, Poor Man"; documentaries on detente and the Bermuda Triangle; and motion pictures, including "MacArthur," "Tora, Tora, Tora," and "Patton."

Motion picture film is similar in many ways to other plastic materials in that it has certain physical limitations. These limitations, when exceeded, can cause damage ranging from fading of the picture image to physical deformation (warping) and finally to total deterioration of the film. These conditions, as well as some others, can occur through improper storage, by faulty handling, or during severe projection conditions.

The long service of film depends on proper care which begins with a film maintenance program to ensure film preservation and to provide the best state of repair.

consistent with the value and activity of the film. The program must also be enforceable.

Photographic film, like ordinary paper records, must be protected against fire, water, mold, and chemical or physical damage. In addition, film should be protected against the extremes of relative humidity and heat that occur during some seasons or in some localities.

There are no Government-wide standards for storing and maintaining film. Therefore, at the locations visited, we used the standards recommended by the American National Standards Institute as our minimum criteria. We are not advocating blanket use of these standards for storing and maintaining motion picture films; however, the standards used should be consistent with the storage life and historical significance of the films.

The American National Standards Institute is the clearinghouse and coordinating body for voluntary, nationally accepted standards. It is a federation of trade associations, technical societies, professional groups, and consumer organizations. Some 1,000 companies are affiliated with the Institute as company members who serve to eliminate duplication of standards by developing nationally accepted standards.

### SCOPE OF REVIEW

Our examination of Federal motion picture storage and maintenance practices was conducted primarily at the National Archives and Records Service headquarters, Washington, D.C., and Archives' film vaults in Suitland, Maryland. We also visited Federal film storage facilities at the National Aeronautics and Space Administration headquarters, Washington, D.C.; Lyndon B. Johnson Space Center, Houston, Texas; National Science Foundation, Washington, D.C.; Internal Revenue Service headquarters, Washington, D.C.; Lyndon B. Johnson Presidential Library, Austin, Texas; Air Force Aerospace Audio-Visual Service, San Bernardino, California; Army Audiovisual Depository and Distribution Center, Tobyhanna, Pennsylvania; Naval Photographic Center, Washington, D.C.; Marine Corps Motion Picture Depository, Quantico, Virginia; United States Information Agency (USIA) headquarters, Washington, D.C.; and United States Information

Agency 1/ Motion Picture and Television Service, New York, New York.

We reviewed the adequacy of film storage and maintenance programs and analyzed the results of a survey questionnaire circulated by Congressman Ottinger. We also reviewed recent studies of Federal audiovisual activities to determine how production practices and facilities affect the eventual storage of motion picture film.

In addition to the Federal facilities above, we visited and interviewed officials at several film processing laboratories and two Hollywood motion picture studios to discuss their motion picture film storage and maintenance practices.

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1/On April 1, 1978, Presidential Reorganization Plan No. 2 transferred responsibilities of the United States Information Agency to the International Communications Agency, Department of State.

## CHAPTER 2

### FEDERAL FILM STORAGE FACILITIES ARE INADEQUATE TO PREVENT DETERIORATION OF HISTORICAL FILM

Federal film libraries and depositories are storing film under conditions that do not meet environmental standards recommended by the film industry. As a result, valuable and historical films may be deteriorating. Factors which contribute to this condition are facilities not specifically designed for film storage; inadequate storage space; and, according to agency officials, inadequate funds for proper storage facilities.

Principally there are two kinds of film: nitrate base film and safety base film. The type of base determines the physical and chemical stability of the film. Nitrate base and safety base film require storage conditions unique to their characteristics. Nitrate film is chemically unstable and is a serious fire hazard. (See fig. 1 on p. 5.) In 1952 nitrate film was replaced with safety film--the more stable, fire-safe, long-term storage medium. Although nitrate film is no longer manufactured in the United States, at one time it was the only available film and considerable quantities remain in storage. Safety and nitrate films should always be stored separately to eliminate the chance of damage to safety film, either from spontaneous ignition of the nitrate film or from gases given off by the nitrate film.

Optimum storage conditions vary with the value of the film. Archival films of historical value, which may be desired for possibly hundreds of years, and original films which may be irreplaceable must be stored under conditions different than films of short-lived interest, such as copies of film for sale or research.

Image deterioration is an inherent problem in photographic materials kept for archival storage. Dye images in color film are more sensitive to environmental conditions than black and white silver images. Therefore, color film requires storage under more stringent standards. Some experts recommend refrigerated storage (zero degrees Fahrenheit) for maximum life of color film, whereas black and white film can be stored at temperatures up to 70 degrees Fahrenheit.



NITRATE FILM IS SELF-COMBUSTIBLE AND IT EXPLODES VIOLENTLY IN THIS DEMONSTRATION. MANY VALUABLE HISTORICAL MOTION PICTURES ON DECOMPOSING NITRATE FILM MUST BE COPIED ON SAFETY FILM TO ELIMINATE THE DANGER OF EXPLOSION.

SOURCE: NAT L ARCHIVES AND RECORDS SERVICE



A controlled environment (temperature and relative humidity) is important in properly storing film. High relative humidities accelerate film decomposition and the fading of dye images in color film, damage the gelatin, encourage the growth of mold, and promote shrinkage. In severe cases, adjacent layers of film in a roll may stick together.

Low relative humidities result in a temporary increase in film curl and a decrease in flexibility, but this trend is reversed when humidity rises again. However, very low relative humidity should be avoided in film storage because the film may crack or even break if handled carelessly under these conditions.

Continuously high temperatures may permanently reduce the pliability of some film bases and may accelerate fading of film images. A more important aspect of temperature is its effect on relative humidity. Low storage temperatures may raise the relative humidity if the storage area is not humidity controlled. This may cause conditions beyond the range of recommended humidities for proper storage.

An American National Standards Institute publication, "Practice for Storage of Processed Safety Photographic Film," recommends standards for storing processed film for short-term and archival purposes. Nitrate base films are not included in this standard. However, the Eastman Kodak Company recommends environmental conditions for storing nitrate film. The recommended environmental conditions for both safety and nitrate film are summarized below.

Recommended Environmental Conditions  
for Storing Photographic Film

	<u>Temperature</u>		<u>Relative humidity</u>	
	<u>Short-term</u>	<u>Archival</u>	<u>Short-term</u>	<u>Archival</u>
	(Degrees in Fahrenheit)		(Percent)	
Black and white safety film	70	70	60	50
Color safety film	55	35	30	30
Nitrate black and white film	-	50	-	40-50
Nitrate color film	-	0	-	40-50

Archival storage conditions should be suitable for preserving motion picture film which has permanent value. Storage areas should be located on the intermediate floors of buildings, never in damp basements or on the top floors of uninsulated buildings which can be sources of heat and humidity.

The following sections of this chapter cover the Federal agencies we visited and compare their film storage conditions with recommended industry standards.

### NATIONAL ARCHIVES AND RECORDS SERVICE

The National Archives was established in 1934 with a threefold mission: to select, preserve, and maintain the archival records of the Federal Government. During the past 44 years, the National Archives has accessioned or reproduced for preservation motion picture films totaling approximately 120-million feet. Of this, about 94-million feet of safety base film is stored within the National Archives Building in Washington, D.C., and the remaining films, consisting mostly of nitrate base films, are stored in the nitrate storage vaults in Suitland, Maryland.

Some storage areas in the National Archives' facilities are filled beyond shelf capacity. In addition, environmental conditions are appreciably below industry recommendations. Also, the design of the National Archives Building contributes to inefficient operation. Daily environmental readings taken by the Archives' Preservation Services Division show temperatures as high as 80 degrees Fahrenheit lasting for several days. The readings also indicate that relative humidity is frequently over 60 percent in the Archives Building. These conditions contribute to the deterioration of valuable movie film as well as other historical records. The conditions exist because the building was designed in two separate phases, and only part of the building's air-handling system has been upgraded. Archives officials told us that the remaining portion of the system will be upgraded this year.

The National Archives Building's layout leaves much to be desired in accessibility of storage areas. Its labyrinth-like inner structure necessitates storing film a considerable distance from viewing areas and inspection rooms. The absence of ready access to film increases the time needed to locate and pull film for researchers.

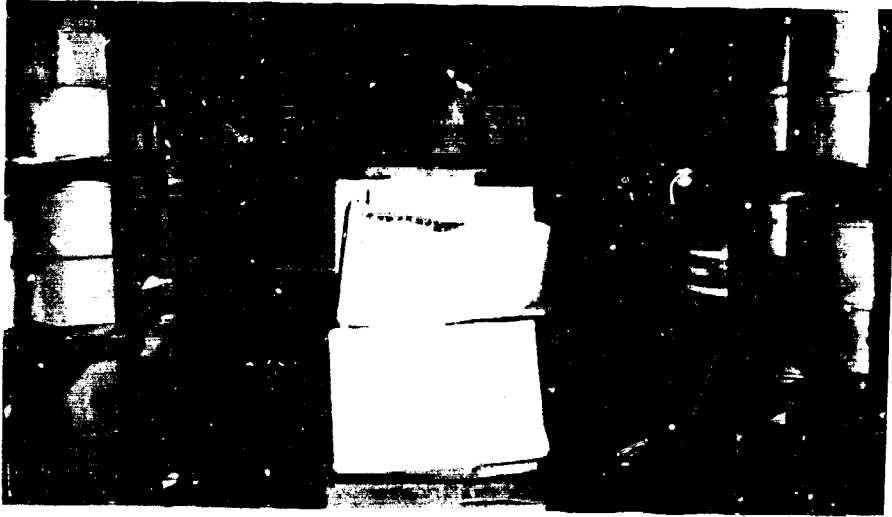
During recent years, the National Archives has acquired millions of feet of motion picture film from Government agencies and private sources. These accessions include nitrate and safety base film.

One of the more serious storage problems is maintaining appropriate conditions for color film. It should be stored under more stringent conditions than black and white film. However, the National Archives currently stores color and black and white safety base film under conditions that do not meet industry standards. Even if the National Archives achieves a proper environment for black and white films, it would still be well below the storage conditions recommended for color films.

The increase in motion picture film accepted by the National Archives, coupled with the shortage of storage space, has filled film storage areas beyond their shelf capacity. For example, because of the shortage of storage space in the Suitland, Maryland, nitrate film vaults, safety film awaiting inspection is often stored in the same vaults with nitrate film. (See fig. 2 on p. 9.) This poses a serious hazard to the safety film. Both trade experience and laboratory experiments show that the gases evolving from slowly decomposing nitrate film can attack safety film, fade the image, deteriorate the gelatin until it becomes sticky or soluble, and finally degrade the base to a point where the historical information on the film is lost forever.

During a visit to these vaults, we also observed cans of nitrate film stacked on top of each other on aisle floors. In several instances, we found these stacks so high as to be unsteady. This poses a potential safety hazard since decomposed nitrate film could explode if the stacks toppled. (See fig. 3 on p. 9.)

Unfortunately, after our visit to these vaults, the unsuitability of Archives' storage conditions was all too clearly demonstrated. On August 29, 1977, approximately 800,000 feet of irreplaceable nitrate film and 110 rolls of nitrate aerial film were destroyed in a fire at the nitrate vaults in Suitland, Maryland. (See fig. 4 on p. 10.) A General Services Administration (GSA) committee which studied the fire concluded that the spontaneous combustibility of nitrate base film, excessive heat in the vault, and poor storage and handling practices contributed to the fire.



**SAFETY FILM STORED IN THE NATIONAL ARCHIVES' NITRATE FILM VAULTS MAY BE DAMAGED.**



**CANS OF NITRATE FILM STACKED IN THE AISLES OF AN ARCHIVES VAULT BECAUSE OF A SPACE SHORTAGE.**



NITRATE FILM AND CONTAINERS DAMAGED IN A FIRE AT THE NATIONAL ARCHIVES' SUITLAND,  
MARYLAND FILM VAULTS.

SOURCE: GENERAL SERVICES ADMINISTRATION

The films destroyed were the only copies in existence. The National Archives was the only agency we reviewed which continues to store nitrate film, although the Library of Congress also has nitrate film.

## AIR FORCE

The Aerospace Audiovisual Service at Norton Air Force Base was established in 1968 by consolidating five Air Force audiovisual activities. It serves as the central library for storage and distribution of Air Force audiovisual products. This audiovisual facility is modern, well-equipped, and provides virtually all audiovisual services.

Approximately 96.9-million feet of film are stored in the depository, including original masters, preprints, prints, and stock footage. These films are stored in air-conditioned and humidity-controlled areas which satisfy recommended environmental standards.

Another 21.1-million feet (100,520 cans) of Air Force film are stored at the Federal Records Center, Laguna Niguel, California. These films were originally transferred to the Washington National Records Center before the consolidation of audiovisual activities at the Aerospace Audiovisual Service. In fiscal year 1975, the films were transferred to the Laguna Niguel facility because of its proximity to Norton Air Force Base where the Air Force had an increasing demand for the films.

The Laguna Niguel facility was not designed for motion picture storage, and, as a result, the Air Force films, which include original and duplicate negatives and release prints, are stored in paper boxes in the same area and manner as paper records. Temperatures in these areas have reached 80 degrees Fahrenheit, exceeding recommended standards for storing film.

The responsibilities of the Laguna Niguel center include records storage, withdrawal on request, and disposal at the owner's direction. Since the Air Force film was transferred to Laguna, none of the film was disposed of; in fact, Laguna Niguel representatives said they receive an average of three requests a week from Norton Air Force Base for rolls of the film which are stored at Laguna. Since the Air Force is continually requesting the film and because the film is not being stored properly, we

suggested that the Air force transfer the films to Norton Air Force Base where there is additional space meeting recommended environmental standards. Air Force officials said they will consider our suggestion.

#### QUANTICO MARINE BASE

The Motion Picture Depository at Quantico, Virginia, is located in two buildings occupied by the Marine Corps Development and Education Command. One building, a cement block facility, which was constructed in 1961 to store release prints, has subsequently been used to store original motion picture film for archival purposes. Currently, 14,205 cans of film are stored in this facility. From 1961 until a contract was awarded to correct the problem in 1977, the temperature and relative humidity in this storage area did not meet recommended standards for archival film storage. Further, these inadequate conditions were cited in a 1975 Inspector General report, but no action was taken then.

To correct the environmental conditions and to preserve original motion picture film, a public works contract was awarded in March 1977 for refurbishing the vault and installing a new environmental control system. This project was in progress during our review.

#### ARMY

Approximately 132-million feet of film (165,000 cans) are stored by the Army Training Material Support Detachment at the Tobyhanna Army Depot, Pennsylvania. The Army transferred its motion picture operation from the Army Pictorial Center in New York to this facility in 1970. The storage space, located in a warehouse, does not have any air-conditioning or humidity controls.

Tobyhanna officials estimate that the average temperature and relative humidity of the facility are about 65 degrees Fahrenheit and 50 percent, respectively. However, they do not take periodic temperature and relative humidity readings. They believe the facility is located in a cool, low humidity area with good cross ventilation. Readings taken during our visit in July 1977 showed the temperatures between 71 degrees and 78 degrees Fahrenheit and the relative humidity between 60 percent and 66 percent. These variations do not meet recommended storage conditions. Tobyhanna officials said the timing of our visit coincided with exceptionally warm weather which produced higher than normal temperatures.

## NAVY

The Naval Photographic Center, Washington, D.C., built in 1942, serves as the central depository and distribution point for all Navy audiovisual activities. It contains over 101-million feet of preprint and stock footage material. In addition, the Center's distribution division stores 535,000 release prints. Adequate storage space for current holdings and future acquisitions does not exist because several of the storage locations do not have environmental controls.

In one storage area, two old nitrate vaults contain preprint material and stock footage. Because there are no environmental controls in the vaults, Navy officials believe the vaults are inadequate for storing this film. As a result, the Navy conducted an environmental feasibility study in 1976 which identified the need for environmental controls to properly store the film. The estimated cost of the proposed renovation was \$304,000, but, according to Navy officials, funds have not been allocated for the project because of the low priority for motion picture storage.

In another storage area at the Washington Navy Yard, about 500,000 release prints are stored on several floors of a warehouse which has no air-conditioning or humidity controls. This storage area was obtained in fiscal year 1976 to store excess and usable obsolete prints returned to the Naval Photographic Center during the reorganization of the Navy's audiovisual library system.

During our visit to this storage location, we observed films stored under a variety of undesirable conditions. For example, film was stored in sealed crates, boxes, and steel barrels, and reels of film were stored in open paper boxes. Many of these films were damaged and covered with layers of dust. The Navy is currently inventorying these films and placing them on film racks.

## UNITED STATES INFORMATION AGENCY

Environmental conditions at the agency's New York and Washington, D.C., facilities do not meet the recommended standards for storing motion picture film. Additionally, flooding problems at the Washington, D.C., facility also contribute to the poor storage conditions. The agency has approximately 290-million feet of motion pictures. Of



this total, about 75-million feet of film are stored in its New York and Washington, D.C., facilities. The remaining 215-million feet are stored at various overseas libraries, commercial laboratories, and at the Suitland Federal Records Center.

Approximately 2.2-million feet of film are stored in the basement of the Patrick Henry Building, Washington, D.C. USIA has continually had difficulty maintaining proper environmental conditions since moving into the building in 1974. For example, USIA environmental standards require maintaining relative humidity at 60 percent. Agency records indicate undesirable variations in relative humidity between 21 and 90 percent.

USIA officials complained to GSA about poor conditions at the Patrick Henry Building. For example, cracks and holes in the ceiling of the basement allow various substances, including drain water and industrial cleaner, to leak down and flood the film storage area. Also, during January 1977, the hot water pipes in the storage area froze and broke, flooding the area with 3 inches of water. Because USIA's film racks are several inches off the floor, no film was ruined, but an estimated \$6,000 in equipment was damaged and had to be replaced.

GSA Public Buildings Service's efforts to correct these improper conditions have been slow and reactionary. Despite numerous USIA requests that GSA improve conditions, GSA's only apparent response has been to lower USIA's rent because of the reduced quality rating of the building and to withhold rental payments to the landlord pending satisfactory results. USIA plans to keep the film library in this undesirable location because it is near shipping facilities.

There are also two libraries in the New York City area. Neither has the recommended temperature and relative humidity.

One library, located in a midtown New York City office building, contains approximately 3-million feet of film. This facility has temperature controls for the entire building; however, individual areas cannot be controlled. Therefore, the storage area is maintained at the normal building temperature.

The other library is located in a Brooklyn warehouse. This library stores approximately 70-million feet of film.

No environmental controls exist in the storage area. Although temperature and humidity readings were not available, the temperature and humidity were extremely uncomfortable during our visit.

## CHAPTER 3

### INSPECTION, MAINTENANCE, AND PRESERVATION PROGRAMS

#### AT FEDERAL FILM LIBRARIES ARE INADEQUATE

Many Federal departments and agencies have inadequate film inspection, maintenance, and preservation programs. As a result, they do not know the condition of their motion picture holdings. Agency officials attribute this problem to a lack of funds and personnel.

The level of required motion picture film maintenance depends on the value and activity of the film. For example, archival film may require an extensive maintenance and preservation program to provide for maximum life. Comparatively, the level of maintenance for films of short-lived interest, such as prints available to the public through Federal film loan libraries, may be relatively simple. Even though maintenance programs vary because of type and value of film stored, there are basic requirements which should be included in all programs.

Film inspection is one of the most important aspects of the total film care program. Films viewed regularly should be inspected (and repaired if necessary) between viewings. Films stored for long periods should also be subject to regular maintenance and inspection. The frequency of such inspections depends on the value of the film and on the storage conditions. For safety film, the American National Standards Institute recommends inspecting a reasonable sample of film every 2 years. If film is stored in areas where deviations from recommended temperature and relative humidity occur, more frequent inspections are recommended.

Nitrate film also requires frequent inspection because of its unstable composition. If recommended storage conditions exist, a wide sample of films should be inspected at least once a year, otherwise once every 3 months.

All films should first be cleaned and repaired before they are stored. Negatives (and other preprint material) should be mounted on suitable cores and prints mounted either on cores or reels. Reels should not be filled to maximum capacity, and care should be exercised in rewinding the film to prevent damage.

Once cleaned and repaired, films should be placed in specially designed protective bags and then placed in film cans, preferably one roll to a can. These cans should be clean and free of damage and rust.

Finally, film cans should be stored on shelves or in cabinets. Active films can be stored vertically (on can edge) for easy access; however, archival films should be stored horizontally.

### AVAILABLE COMMERCIAL SERVICES

For agencies without in-house film maintenance programs, commercial services are available. Although we did not evaluate these services, they may be an option for agency consideration. During our review, the Marine Corps film library was sent to a contractor for inspection and restoration.

A wide variety of commercial film care services exist. They range from archival storage and maintenance to maintaining a film loan program and from film inspection to cleaning and restoration. As in the case of the Marine Corps, commercial inspections may result in a written report, outlining the extent of work needed to recondition the films. Reconditioning may include cleaning, lubrication, or rejuvenation.

The following pages of this chapter describe Federal agencies' film care practices and how they compare with standards generally followed in commercial practice for inspection, maintenance, and preservation of motion picture film.

### NATIONAL ARCHIVES AND RECORDS SERVICE

Film maintenance and inspection practices at the National Archives are inadequate and do not meet the minimum standards of the American National Standards Institute. A review of film inspection records revealed that numerous films had not been inspected since 1957. We also found that many films had never been inspected. An Archives official stated, that given the quantity of film in their care and current restrictions on hiring, it is impossible to meet industry inspection standards. For example, at the time of our review there was no full-time safety film inspector assigned to the Archives' film preservation program.

Basically, the same is true for nitrate film. A tremendous inspection backlog exists because of a lack of inspectors. Because of the high deterioration rate of nitrate film, it poses a more serious problem than safety film.

At the time of our review, the National Archives had a goal of annual sight-inspection (opening a film can and looking for obvious signs of deterioration) of all nitrate film; but with 40,000 cans of nitrate film, and only one full-time nitrate film inspector, they were unable to meet this goal. Thus, films could easily deteriorate between inspections. During a sight-inspection of the nitrate film, we noted several reels of film in varying stages of deterioration. (See fig. 5 on p. 19.)

The only feasible means of preserving the information recorded on nitrate film is reproduction onto safety film as soon as possible. (See fig. 6 on p. 19.) As of February 1977, the nitrate film conversion workload at the National Archives was approximately 26-million feet. Goals to annually convert 1-million feet of nitrate have not been achieved, and, at the current rate of conversion, the result will be an irreplaceable loss of the films and the history they contain.

Nitrate film may decompose in as few as 15 to 25 years. Since nitrate film was taken off the market in 1952, the youngest nitrate film is already 26 years old. At a conversion rate of 1-million feet a year, much of the nitrate film could deteriorate before the National Archives gets around to printing it.

The National Archives film laboratory currently does film reproduction both for public sales and for most archival nitrate preservation. Archives laboratory facilities and staff are able to reproduce approximately 1.2-million feet of motion picture film annually. Only 342,000 feet of archival preservation were printed in fiscal year 1976 (far below the 1-million foot goal), whereas 842,000 feet were printed for public sales. Copying the nitrate film onhand at the fiscal year 1976 rate would take over 75 years.

We believe the 10-year nitrate conversion program proposed in one Archives study would be preferable because of the risks involved in the present 26-year program. Based on National Archives estimates, a 10-year



**AUDITORS FIND DECOMPOSED FILM IN NATIONAL ARCHIVES' VAULT.**



**WHEN NITRATE FILM REACHES AN ADVANCED STAGE OF DECOMPOSITION, REPRODUCTION IS IMPOSSIBLE.**

SOURCE: NATIONAL ARCHIVES AND RECORDS SERVICE

program to convert 26-million feet would have an estimated laboratory cost of \$4,240,000 and would require five additional positions. The nitrate conversion budget, however, for fiscal year 1977 was \$112,000. This is relatively consistent with budgets for the past several years despite a drastic increase in workload resulting from new film accessions.

Archives officials told us that the Library of Congress is now converting some of their nitrate to safety base film. They also said two commercial laboratories may be interested in providing this service. During our review we were unable to find any commercial film laboratories capable of handling Archives' nitrate conversion requirements. The skills and machinery required to print nitrate film are not readily available in an industry which has turned to more modern times. However, if outside conversion sources can be used and adequate funding provided, the Archives may be able to carry out an effective nitrate conversion program.

#### TOBYHANNA ARMY DEPOT

The Training Material Support Detachment at Tobyhanna Army Depot, Pennsylvania, maintains and operates the audiovisual distribution system (library) and the audiovisual depository. The maintenance and inspection programs associated with the library and the depository vary considerably.

The library contains approximately 32-million feet of film which are continually being distributed to any of the 100 Army Training and Audiovisual Support Centers worldwide. Each training center is responsible for cleaning and maintaining the films in its possession until the films are removed from distribution. Once this happens, a copy is placed in the depository at Tobyhanna, and the remaining films are offered to the National Archives. All films coming to or leaving Tobyhanna are inspected. According to Army personnel, an estimated 5-million feet of film are inspected at Tobyhanna annually. Primarily this represents new accessions and reproductions returning from commercial laboratories.

On the other hand, approximately 100-million feet of relatively inactive film which is stored in the depository at Tobyhanna receive little or no inspection. Even though in fiscal year 1977 about 800,000 feet of stock footage were inspected, most of the film has not been inspected

since the motion picture operation was transferred to Tobyhanna in 1970.

During our inspection of the depository, we found numerous rusted and damaged cans of film. Also, dust and dirt were visible on film racks, floors, and inside the film cans. The poor condition of the cans and film at the Tobyhanna depository was identified in a 1973 Army manpower survey. Requests for additional personnel to inspect the film and replace damaged cans were denied because the program was not considered cost effective. Therefore, rusted and damaged cans are only being replaced piecemeal. If these conditions continue, the film stored here can be adversely affected or irreparably damaged.

### AIR FORCE

Compared to the other Federal agencies visited during this review, the central audiovisual depository at Norton Air Force Base has a responsible and comprehensive plan for preserving and maintaining audiovisual records. All motion picture films stored at the Norton facility receive periodic cleaning and inspections. During our inspection of the film holdings, we found no obvious signs of deterioration.

The Air Force films stored at the Laguna Niguel Federal Records Center, however, are not subject to the Air Force's film maintenance program. Since the Laguna Niguel facility does not have any film cleaning or inspection capabilities and is not responsible for these functions, none of the current Air Force holdings at Laguna Niguel have been inspected since their transfer there in 1975. We were unable to determine if the film was inspected prior to the transfer.

Many of the films stored at Laguna Niguel are original films and are continually requested by researchers at Norton Air Force Base. To assure their preservation, they should be subject to the Air Force inspection and maintenance program. As discussed in chapter 2, we suggested that the Air Force transfer these films to the Norton depository so they will receive proper maintenance and storage. Air Force officials stated that any transfer would have to be coordinated with GSA, and additional staff would be needed to assume the extra inspection and preservation workload. They agreed to consider our suggestion.



## QUANTICO MARINE BASE

The mission of the film depository is supposed to include film maintenance and preservation. However, according to Marine Corps officials, there are no written guidelines on maintenance and preservation; therefore, no maintenance and preservation program is followed. Thus, over the years, this has contributed to the deterioration of Marine Corps film. A proper film maintenance and preservation program is not in itself insurance against film deterioration, but it can help identify and correct deterioration problems, thereby saving time, money, and original footage of historical events. For example, in June 1976, a major motion picture studio discovered film deterioration on several borrowed rolls of original Marine Corps World War II footage. At the studio's request and expense, the film was sent out for inspection and rejuvenation. The resultant inspection report stated that film deterioration from fungus growth, emulsion cracking, shrinkage, and condensation was found and that immediate action was required to prevent further deterioration. Subsequently, a contract was awarded to inspect 14,205 cans of archival film stored at the facility. An inspection report will be prepared at the contract's completion. Based on the inspection findings, the film, presently with the contractor, will either be transferred back to Quantico or another contract will be awarded for its cleaning, repair, or rejuvenation.

The Marine Corps does have some minimal film care practices. For example, active film is visually inspected and repaired when returned from distribution. However, this facility does not have any technologically advanced audiovisual equipment needed for more extensive film cleaning and repair jobs, so only minor film repair work is done in-house.

As a result of the poor conditions in the film vaults (see ch. 2) and the deterioration of historical film, an official said the Marine Corps plans to initiate a limited inspection and maintenance program. The proposed inspection and maintenance program will include only visual inspection and rewinding of all film semiannually. It does not include other film care practices, such as cleaning and lubricating the film which are recommended by the American National Standards Institute. A Marine Corps official said personnel and funding constraints prohibit a full-scale inspection and maintenance program.

## NAVAL PHOTOGRAPHIC CENTER

A lack of funds and personnel has affected the Navy's ability to maintain its film. As a result, valuable film is deteriorating in the center's depository and distribution storage facilities.

Motion picture film is screened and inventoried when received from the lab where it was processed. Once in storage, it is inspected only when used. Distribution prints are randomly inspected. However, no records are maintained on the amount of film inspected. Equipment is available for inspecting and cleaning film, but it is underutilized because adequate personnel and funds are not available.

According to the Center's fiscal year 1978 itemized budget, funds are required to prevent further deterioration of Navy film. There is currently no Navy film preservation or restoration program; therefore, much film of inestimable historical value may be lost annually. The center has requested \$5,000 for a film preservation and restoration contract. Navy officials said this is their first attempt to correct deterioration problems. They hope to set a precedent for larger future preservation funding requests.

In January 1977 the Navy instituted a vigorous redistribution program to improve the use and availability of Navy audiovisual products and to reduce reproduction costs substantially. The Navy issued instructions to all Naval film libraries to withdraw obsolete films from circulation and to return all excess inventory films and usable obsolete films to the Naval Photographic Center. Over 500,000 excess films (an estimated \$15-million investment) were returned to the Naval Photographic Center under the redistribution program and are currently stored by the center at the Washington Navy Yard.

Our limited inspection of the films stored at the Washington Navy Yard found them in generally good condition although we did find several rolls of film that were deteriorating. Also, some films were stored in rusted and damaged cans. A photographic center official said that the Navy's original objective was to clean and inspect these films, but personnel and budget constraints prohibit it. The lack of environmental controls discussed in chapter 2 and the fact that no film maintenance or preservation program exists contributes to the continuing deterioration of these films. Unless provisions are made to adequately maintain these films, a sizable investment could be lost.

## UNITED STATES INFORMATION AGENCY

USIA's Washington, D.C., film library provides a free loan program to qualified users. There are approximately 5,142 films stored there. The Information Agency's film maintenance program emphasizes inspecting and cleaning film after each use and before each showing. Inactive or relatively inactive films benefit little or not at all from this program.

According to USIA officials, maintaining and inspecting inactive film has low priority in their operations because these officials feel resources are best spent maintaining the high quality of active prints. As a result, many inactive films reviewed during our visit were not inspected in fiscal year 1977 or since they were last used. We also found instances where inactive film was stored in rusted cans covered with dust.

Agency officials said once a film becomes completely inactive, it is placed on the obsolete list and sent to one of their New York libraries until accessioned into the National Archives or destroyed. This could result in a serious problem for any film of archival value because USIA's New York libraries do not have a film maintenance and inspection program. Most of USIA's inactive or obsolete film is stored at the stock footage library in Brooklyn, New York.

During our visit, we found rusted and damaged cans, film wound on damaged reels, and several films not in cans. Agency officials said they have found some deterioration in their color film. They claim this is inevitable because of color film's short life, even under ideal conditions. However, by providing a proper film maintenance program and storing film under recommended conditions such film deterioration can be minimized.

## CHAPTER 4

### RECENT FILM ACCESSIONS CONTRIBUTE TO STORAGE AND PRESERVATION PROBLEMS AT THE NATIONAL ARCHIVES

Many recent film accessions contain films which may not be related to the mission of the National Archives. This situation is caused, in part, by very broad criteria for determining the archival value of motion picture film and a lack of manpower to adequately evaluate films before accepting them. As a result, the National Archives has had to use its limited resources to maintain and preserve films which may not have archival value. More importantly, these films may be maintained at the expense of not preserving films with archival significance.

The National Archives was created to select, preserve, and service the Archives of the United States. The legal authority for accepting motion picture film is contained in 44 U.S.C. 2107. Section 2107 provides, in part, that when the Administrator of the General Services Administration considers it to be in the public interest, he may accept for deposit documents, including motion picture films, still pictures, and sound recordings that are appropriate for preservation by the Government as evidence of its organization, functions, policies, decisions, procedures, and transactions. This act provides no other criteria for evaluating archival donations. Thus, films need only provide evidence of Government policies or activities.

### SHOULD THE NATIONAL ARCHIVES CONTINUE TO MAINTAIN PRIVATE FILM COLLECTIONS?

In recent years the National Archives has acquired over 50,000 reels of movie film from private sources which constitute about one-third of all Archives' film holdings. The table on the following page summarizes these private film accessions.

Recent Archives Motion Picture Film Accessions  
From Private Sources

<u>Collection</u>	<u>Reels</u>
American Enterprise Institute	48
Ford Collection	5,682
Harman Foundation	2,117
League of Nations	121
Longine Wittnauer	1,022
Movie & News	581
March of Time	17,212
News of the Day	1,284
Universal Newsreel	29,241

Many segments of the films donated by private sources do not appear related to the mission of the National Archives, that is, they do not provide evidence of Government policies or activities, and, therefore, may not have archival value. For example, catalog card descriptions of the Universal Newsreel collection indicate that it contains footage of such events as

- a cock fight in Puerto Rico,
- scenes from the 1953 Georgia-Tulane and Notre Dame-Oklahoma football games,
- scenes of baseball player Lou Aparicio during spring training in 1956,
- scenes from a 1948 Beach Girl Amateur Photo Contest, and
- scenes of Puerto Rican women and girls sewing.

Although the Archives may have been justified in accessioning private film collections in that many of the films contain segments pertaining to Government policies or activities, we believe much of the material does not have archival value and should not be maintained by the National Archives. The two largest private donations, Universal Newsreel and March of Time, contain approximately 26-million feet of nitrate film and pose a formidable preservation problem. The Archives' inability to adequately inspect and maintain this nitrate film creates a storage hazard, as demonstrated by the August 1977 fire which destroyed 800,000 feet of the March of Time collection. Archives' officials told us that since this fire, they have begun semiannual inspections of their nitrate film holdings.

Archives officials agree that many of these films may not be related to Government policies or activities. As a result, current preservation plans call for converting to safety film only those portions having archival value. (See pp. 28 and 29 for a discussion of archival criteria.) However, the percentage of these collections which will eventually be converted is unknown.

Although the Archives does not plan to reproduce all their nitrate film, they do intend to store and maintain the entire collections after Government-related segments are converted to safety base film. GSA's ad hoc study group on the Suitland nitrate fire recommended that once converted, nitrate film should be disposed of. We support this recommendation from an economic and safety standpoint.

Despite the Archives' difficulties in preserving its existing private film collections, they have entered into agreements to videotape or otherwise obtain news programs from the three major broadcasting networks. Although the present cost of this program is minimal, the preservation costs will be substantial. Since the estimated shelf life of high quality videotape is 20 years at most, these broadcasts may eventually be converted to film or some other more permanent storage medium.

We recognize that many Government-related policies or activities are not documented in Government-produced film, and we can understand the Archives' interest in obtaining film documentation from private sources. However, we do not believe the Archives has set achievable goals within its existing resources. Archives officials recognize the problems they face in preserving their audiovisual records and have conducted numerous studies of this area. They have also taken steps to reduce their costs, such as using videotape rather than film for reference copies of films. They also said that the Library of Congress has agreed to convert some Archives' nitrate film to safety base film and that commercial laboratories have also expressed interest in providing this service.

Although the Archives' plans call for adequate funds, we believe the plans fail to recognize that previous funding was usually below planned requirements. In our view the Archives must set more realistic and achievable funding

goals. The latter would necessitate greater selectivity in obtaining films from private sources.

If the Archives continues to accession films which strain or exceed its maintenance capabilities, it seems inevitable that films having permanent value will be lost.

#### GOVERNMENT FILMS MAY NOT HAVE ARCHIVAL VALUE

In addition to film donated by private sources, the National Archives also receives large quantities of film from Government agencies. Archives often accepts these films without inspecting them or viewing them for archival value. Archives officials said that because they neither have the funds nor the manpower, they make decisions to accept or reject millions of feet of Government film based only on the general subject matter descriptions provided by Federal agencies. The National Archives is aware of the problems inherent in these kinds of accessions and agrees that some Government films they acquire may not have archival value. We were told that the Archives attempts to correct this problem by reevaluating its holdings (1) when cataloging the films, (2) when inspecting them, and (3) during periodic reviews of all its holdings in a particular record group (category). The ultimate goals of these reevaluations is to increase the quality of film holdings and provide more storage space. However, because of personnel limitations, Archives' officials told us that very few films have been disposed.

Another problem is that the National Archives lacks detailed criteria for actually determining what films have archival value. Archives has issued general guidance to agencies on film management through the Federal Property Management regulations. In addition, they have developed a General Records Schedule to provide agencies with guidance on disposition of films or whether they should be offered to the National Archives for preservation. Our review of this guidance indicates that almost any films may be interpreted as having archival value. Further, some agency officials we contacted believe much of the film they transfer to the National Archives may not have archival value. Although the Archives may decline to accept these films, as previously discussed, they are forced to rely on agencies' general descriptions of what is in the films; descriptions can be misleading and result in accessioning nonarchival film.

We believe the National Archives must provide agencies better guidance on determining the retention periods of films and on which films they should offer the National Archives for permanent preservation. More definitive guidance could reduce the possibility of accessioning nonarchival films which, in turn, would reduce Archives future workload.

#### GOVERNMENT-WIDE EFFORTS NEEDED TO SOLVE ARCHIVES' PROBLEMS

In view of the National Archives' current storage and preservation problems, much archival film could be irreparably damaged or lost. In some cases, Government films were in poor condition before receipt by the Archives. The Archives must accept these films while being fully aware of their condition and knowing it cannot provide repair services. For example, in 1974 the Navy transferred 2-million feet of World War II and Korean War stock footage to the National Archives. Inventory records on this film stated it was shrunken, brittle, and in need of immediate restoration. To date, Archives has not acted to restore this film.

As a further illustration of the magnitude of this problem, the National Archives estimates that the 32-million feet of film recently acquired from the United States Information Agency would require 32 man-years of labor to inspect. At present, the National Archives is barely able to keep up with inspecting and preparing films to fill researchers' copy orders.

An alternative may be to use commercial inspection and rejuvenation services. Such services could help alleviate some of the Archives' backlog. However, the cost is substantial and far exceeds currently available funding. For example, the National Archives estimates it would cost approximately \$510,000 just to have the Information Agency and Navy collections inspected commercially. Archives in-house cost would be even greater.

Improving film storage, maintenance, disposal, and transfer programs at the agency level may provide a partial solution for future film accessions. In 1976 the Archives, through its Federal Property Management Regulations, provided guidance to agencies on film copies needed for archival preservation. To protect original films, researchers use film or videotape copies which are generally made by Archives as part of its film preservation program. By requiring that agencies provide these copies, which are often readily available, Archives will reduce its future film preservation costs.



To assure that agencies properly manage their audiovisual records, including motion picture films, the National Archives includes such records in their evaluations of agencies records management programs. The Archives can and does make recommendations to agencies for improving their motion picture film management practices. Implementing Archives' recommendations can often result in savings to the Government by improving agencies' audiovisual records programs. Also, the Archives may benefit by receiving a better quality film for archival storage and may better plan its future storage needs.

## CHAPTER 5

### MANAGEMENT OF FEDERAL AUDIOVISUAL

#### ACTIVITIES CAN BE IMPROVED

Federal audiovisual management has been the subject of much attention and criticism. During the past 20 years, there have been numerous studies of audiovisual activities in the Federal Government. However, most of the studies were in some way hampered by a lack of information on agencies' film productions and facilities. As a result of the various study efforts, much has been written about the need for more effective management of audiovisual activities, and common problems have been identified in several reports. Problems frequently noted include

- the proliferation of audiovisual use within the Government,
- duplication of production efforts among agencies,
- poor utilization of Government facilities, and
- lack of information on the nature, volume, and cost of Federal audiovisual productions.

These problems, as well as others identified in this report, resulted, in part, from a lack of continuing Government-wide policy guidance, and oversight of audiovisual activities. Most steps to improve audiovisual management were taken mainly as a result of criticisms of existing practices and ad hoc studies of ways to improve audiovisual management practices. However, such ad hoc efforts lacked the continuity needed to bring about real improvements in Federal audiovisual management.

This lack of effective central management is also evident within agencies, resulting in considerable autonomy at many field locations we visited. Such autonomy further complicates improvement efforts because unique information and information systems developed primarily for managing the field activities are often incompatible and difficult to analyze from a central viewpoint.

In 1974 a Department of Defense (DOD) task force on audiovisual management reported that there was a lack of definitive policy guidance and management control by both DOD and its components. The report related that although

the Office of Audio-Visual Activities was established in 1967, the Office lacked the necessary staff to improve audiovisual management. Thus, its efforts were primarily reactionary.

As a result of the 1974 study, DOD has progressed toward improved audiovisual management. A Directorate for Audio-Visual Activities was established to set DOD-wide audiovisual policies and coordinate DOD component agencies' audiovisual activities. One of the major problems the task force identified and one of the first addressed by the new Directorate was the lack of a management information data base and reporting system. Without meaningful information, DOD-wide audiovisual management was impossible.

The Defense Audiovisual Information System was thus established as a central data base for audiovisual products and is the first step toward a standard system for controlling and distributing DOD films. The second step is establishing a facilities data base which includes all DOD audiovisual equipment by category, facility, and organization. DOD is currently implementing this step which will enable it to plan for consolidating and streamlining its audiovisual operations. Other parts of this management information system will include a film booking and distribution system, an indexing and retrieval system for each audiovisual depository, and management support, such as cost accounting and managing film production.

In 1968, the National Audiovisual Center was established within the National Archives and Records Service. It serves as an information, sales, loan, and technical service center for audiovisual materials produced by or for Federal agencies. Agencies supply the center with catalogs and descriptive listings of their audiovisual materials which the center enters into a computer system. The center prepares and distributes sales and loan catalogs listing approximately 9,000 completed films included in its system. Agencies also deposit copies of their films with the center.

The success of the National Audiovisual Center depends on the full cooperation of all agencies, but since, in the past, participation has been voluntary, this has not been the case. 1/ In many instances agencies did not provide

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1/OMB Circular No. A-114, dated Apr. 13, 1978, now requires agency participation.

the center with the material needed to copy new films, and in other cases, agencies did not advise the center of their new films.

A central information system, coordinated between the National Audiovisual Center and DOD, is planned for all Federal audiovisual activities. This consolidated index system will increase the possibility for exchanging films. Many Federal agencies will be able to gain access to the information through TYMNET, a specialized communications network. Full implementation and operation of this system is expected in fiscal year 1979.

Other steps to develop a cooperative Federal audiovisual system have been taken by the Office of Management and Budget (OMB). An Interagency Audio-Visual Group, established by OMB under the leadership of the Office of Telecommunications Policy, issued a January 1974 report, entitled "Audiovisual Communications in the Federal Government." The report made several recommendations for improved management of Federal audiovisual activities and concluded that there are opportunities to improve productivity and increase facilities utilization. The report also identified the need for greater coordination to minimize duplication of audiovisual productions.

To implement the Office of Telecommunications Policy recommendations, OMB established the Federal Audiovisual Committee. The Committee's primary purpose is to advise and assist the Office of Federal Procurement Policy, another OMB arm, in formulating and coordinating Government-wide policy to improve audiovisual management practices. The Committee is an interagency forum with voluntary membership from 27 agencies. The main emphasis of the Committee has been to implement the Office of Telecommunications Policy recommendations. The Committee divided this responsibility among various task groups comprised of agency members and meets four times a year to discuss the groups' progress.

To date, several of the Office of Telecommunications Policy recommendations have been implemented as a result of the Federal Audiovisual Committee efforts to assist the Office of Federal Procurement Policy. The Office of Federal Procurement Policy prepared policies for executing additional recommendations through an OMB Circular. 1/ Among other things, the new policies require all agencies and departments

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1/Management of Federal Audiovisual Activities, OMB Circular No. A-114, Apr. 13, 1978.

to (1) coordinate new productions to avoid duplication, (2) report the volume and cost of audiovisual activities to the National Audiovisual Center, and (3) improve facilities utilization. The head of each agency is responsible for regulations, controls, and review actions necessary to adopt the circular's provisions.

Even though implementing these new policies will be a major step toward improved management of audiovisual activities, we believe this report clearly shows that a significant aspect of audiovisual management--storage and maintenance of movie film--has been seriously neglected. While this review was not directed at evaluating prior audiovisual management studies or their impact, it nevertheless became quite apparent that prior initiatives were sporadic and solutions were crisis oriented. In our view the Government needs an ongoing audiovisual management program which will include setting a Government-wide policy for all aspects of audiovisual communications, including the storage and maintenance of movie film. We believe OMB, possibly through the Federal Audiovisual Committee, should study the alternatives for establishing and placing such a program. We further believe that any office in which Government-wide audiovisual management responsibility is placed should have adequate visibility and authority to provide the continuing policy direction, agency coordination, and oversight that is needed and warranted.

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS AND

### MATTERS FOR CONSIDERATION BY THE CONGRESS

#### CONCLUSIONS

The problems associated with storing and maintaining motion picture film probably will not be easily or economically solved at those facilities not originally designed for film storage. While efforts should be made to upgrade the film storage facilities, we believe the Government-wide storage problem will not be solved until there is more central management of, and attention to, all Federal audiovisual activities, including film storage and maintenance.

Reducing the amount of film stored and maintained would also relieve storage and maintenance problems by requiring less space and possibly requiring less additional personnel than are now indicated. Therefore, the Archives needs to provide better and more stringent criteria for film retention periods and for determining the archival value of film.

Agency representatives claim that insufficient personnel and inadequate funding are the primary reasons for inadequately maintaining their film. Our observations during this review basically substantiate this claim. However, we believe that agencies, either working within current resources or using additional personnel and funds must first establish management programs for the maintenance, preservation, and storage of films. Management attention is sorely needed to see that priorities are set and procedural guidelines for the handling and disposition of film are promulgated to all concerned parties within an agency.

#### RECOMMENDATIONS

The following recommendations are addressed to the Director, Office of Management and Budget, and the Administrator of General Services; however, agencies should not wait for direction from CMB to institute corrective actions that are within their existing capabilities.

We recommend that the Director, Office of Management and Budget, with support and assistance from the Federal Audiovisual Committee

- review and evaluate the storage conditions at Federal film libraries, depositories, and distribution centers and require improvements where needed;

- establish procedures requiring Federal audiovisual facilities to improve or establish film inspection, maintenance, and preservation programs; and
- establish a program and place responsibility for continuing Government-wide audiovisual policy direction, agency coordination, and oversight.

We further recommend that the Administrator of General Services direct the Archivist of the United States to

- accelerate programs to screen movie film holdings, removing nonarchival films;
- establish and promulgate detailed standards for determining the retention periods and archival value of films;
- take effective action to convert archival nitrate film to safety base film and dispose of the nitrate film once it is converted;
- evaluate safety film holdings and establish cost estimates, priorities, and goals to inspect, clean, rejuvenate, or reproduce these films as warranted; and
- implement a comprehensive film inspection and maintenance program.

The Administrator should also direct the Commissioner, Public Buildings Service, to

- upgrade the environmental conditions in the National Archives Building by providing adequate temperature and relative humidity controls and
- assist agencies in achieving adequate environmental conditions for film storage.

**MATTERS FOR CONSIDERATION**  
**BY THE CONGRESS**

This report shows that Federal agencies give inadequate attention to motion picture film storage and maintenance resulting in accelerated film deterioration. Both ongoing and recommended actions by OMB may bring about some improvements. However, we believe ultimate solutions to the problems will require additional staff and funds.

The Government has an immeasurable investment in motion picture films. Also, archival films are a significant means of enlightening present generations and documenting our times for future generations. These factors are important when evaluating financial requests for film preservation.



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February 15, 1977

Mr. Smith Blair, Jr.  
Director  
Office of Congressional Relations  
General Accounting Office  
441 G Street, N.W.  
Washington, D.C.

Dear Mr. Blair:

Last fall I circulated a questionnaire to nearly one hundred Federal film libraries in order to measure the extent to which these libraries are utilizing film maintenance programs for the care of their film stock.

Most of the responses have now been received. They indicated that a good many of these libraries may not have adequate maintenance programs, a finding that has serious financial and historical ramifications.

My survey indicates that numerous libraries simply replace their aging film rather than use available rejuvenation technology which is less costly. If such procedures are multiplied by the great number of U.S. film libraries, it is evident that the extra cost to the taxpayer may be substantial.

In other cases, however, more important considerations than costs are at stake. The fact is that in many of the archives where the nation's irreplaceable film is stored, there are no comprehensive film maintenance programs. As a result, for example, film footage of World War II, which could not be replaced, may perish unless adequate provision is made for its upkeep.

Enclosed you will find a sample of the questionnaire that I have circulated. I am requesting at this time that the GAO conduct a study to analyze the results of the survey and assess the adequacy of U.S. film maintenance programs. In particular, I believe the analysis should measure the amount of money that would be saved if film rejuvenation and repair techniques were utilized instead of replacement. Secondly,

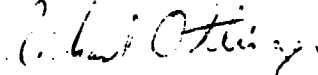
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it should determine the condition of historical film in national archives and recommend procedures that might be implemented to protect it.

Finally, I would like to emphasize that film deteriorates rapidly. Since time is a crucial consideration in this instance, I would be most appreciative if you would assign someone from your staff to contact Scott Gilbert in my office to discuss further details of the report as soon as possible.

I am grateful for your help.

Sincerely,



Richard L. Ottinger  
Member of Congress

RLO/esg  
Enc.

PRINCIPAL OFFICIALS RESPONSIBLE FOR ADMINISTERING  
ACTIVITIES DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
<u>DEPARTMENT OF DEFENSE</u>		
SECRETARY OF DEFENSE:		
Dr. Harold Brown	Jan. 1977	Present
Donald H. Rumsfeld	Nov. 1975	Jan. 1977
ASSISTANT SECRETARY OF DEFENSE (PUBLIC AFFAIRS) (note a):		
Thomas B. Ross	Mar. 1977	Present
ASSISTANT SECRETARY OF DEFENSE (MANPOWER, RESERVE AFFAIRS AND LOGISTICS) (note a):		
Dale R. Babione (acting)	Jan. 1977	Apr. 1977
Frank A. Shrontz	Feb. 1976	Jan. 1977
John J. Bennett (acting)	Mar. 1975	Feb. 1976
Arthur I. Mendolia	June 1973	Mar. 1975
CHIEF, DIRECTORATE FOR AUDIOVISUAL ACTIVITIES:		
Colonel Felix L. Casipit	Sept. 1976	Present
Lt. Colonel Robert G. Main	Sept. 1975	Sept. 1976
<u>GENERAL SERVICES ADMINISTRATION</u>		
ADMINISTRATOR OF GENERAL SERVICES:		
Joel W. Solomon	May 1977	Present
Robert T. Griffin (acting)	Feb. 1977	Apr. 1977
Jack Eckerd	Nov. 1975	Feb. 1977
COMMISSIONER, PUBLIC BUILDINGS SERVICE:		
James Shea	June 1977	Present
Tom L. Peyton (acting)	May 1977	June 1977
Nicholas A. Panuzio	Sept. 1975	Apr. 1977

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
<u>NATIONAL ARCHIVES AND RECORDS SERVICE</u>		
ARCHIVIST OF THE UNITED STATES:		
James B. Rhoads	May 1968	Present
ASSISTANT ARCHIVIST OF THE OFFICE OF FEDERAL RECORDS CENTERS:		
Walter W. Stender	Jan. 1970	Present
ASSISTANT ARCHIVIST OF THE OFFICE OF THE NATIONAL ARCHIVES:		
Mabel E. Deutrich	Oct. 1975	Present
EXECUTIVE DIRECTOR:		
John L. Landers	Feb. 1976	Present
Walter Robertson, Jr.	Jan. 1954	Feb. 1976
<u>OFFICE OF MANAGEMENT AND BUDGET</u>		
DIRECTOR:		
James T. McIntyre, Jr.	Mar. 1978	Present
James T. McIntyre, Jr. (acting)	Sept. 1977	Mar. 1978
Thomas B. Lance	Jan. 1977	Sept. 1977
James T. Lynn	Feb. 1975	Jan. 1977
ADMINISTRATOR, OFFICE OF FEDERAL PROCUREMENT POLICY:		
Lester Fetting	May 1977	Present
James D. Currie	Feb. 1977	May 1977
Hugh E. Witt	Dec. 1974	Feb. 1977
CHAIRMAN, FEDERAL AUDIOVISUAL COMMITTEE:		
James D. Currie	Jan. 1976	Present

<u>Tenure of office</u>	
<u>From</u>	<u>To</u>

UNITED STATES INFORMATION AGENCY

DIRECTOR:

John Reinhardt  
James Keogh

Mar. 1977	Present
Feb. 1973	Mar. 1977

a/In January 1977 the responsibility for establishing policies and standards for audiovisual activities was transferred from the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics to the Assistant Secretary of Defense for Public Affairs.

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