

ii. For most documents, optimum density should read 1.0 to 1.20 for original first generation camera film. Acceptable standards will fall between a minimum of 0.80 and a maximum of 1.35. The supervisor must use judgment to determine the most suitable density within this range for the documents being filmed. To permit a more accurate reproduction of the original roll, each image should maintain, as far as possible, a specific density throughout the roll. Since the color of the original documents will effect the density of the image, and not all documents in a particular record series may have the same color, an average density aim point should be chosen.

iii. A density minimum reading taken from the non-image or clear area of the film will not exceed a reading of 0.12 or manufacturer's specifications using automatic retrieval systems. Readings should be made close to the center of the film strip to avoid edge fog interference. (Note: Both background density and D-min density must be taken with a transmission densitometer.)

iv. A microscope having a magnification of 50X to 150X with achromatic objectives must be used to read the resolution from the National Bureau of Standards' microcopy resolution test chart. The line direction method will be used in making the determination of resolution. A minimum resolution of 80 lines per millimeter on rotary cameras and 110 lines per millimeter on planetary cameras must be obtained on first generation camera film.

v. Thiosulfate residual content should be tested at least once a month. Only the methylene blue test method will be considered sufficiently reliable to determine archival quality. American National Standards Institute PH 1.28, as amended and supplemented, states the levels of thiosulfate concentration that must be observed.

vi. A target indicating the beginning and end of retakes must be used. Retakes may be placed at the beginning or end of a roll of film and, when possible, in sequence. When computer-assisted or random retrieval methods are used, retakes may be placed on the following roll with retake targets. Placement of retakes should be decided before the start of filming and remain consistent.

vii. Splices should be kept to a minimum: no more than four splices per roll will be accepted. When splicing images in proper sequence within duplicate rolls, only heat-weld splicing will be considered archival.

viii. All film will be processed to meet National Bureau of Standards' PH 4.8. Dry chemical processing will not be acceptable. Film failing to meet the specified limits for thiosulfate concentration will not be acceptable.

ix. All film must be inspected for proper indexing, density, resolution and, for residual thiosulfate. Film should be free of scratches, abrasions, blemishes or other defects.

4. The original roll of film must be maintained in archival storage when the records contain information essential to the continuity of governmental operations and the protection of the rights of individuals. Any irreplaceable records having a retention period classified as permanent should be included in this category. When film is to be cut for jackets or aperture cards, the original roll may be used provided an uncut duplicate roll of silver halide film has been prepared for storage. American National Standards Institute requires film specifications for archival storage PH 1.28, PH 1.25 and PH 1.41. The following specifications must be followed for archival storage:

i. The relative humidity of the storage vault or room must not exceed 40 percent.

ii. Temperatures must not exceed 70 degrees Fahrenheit.

iii. Rapid and wide-range cycling of humidity or temperature must be avoided and in no instance exceed plus and/or minus five percent in a 24 hour period.

iv. No rubber bands, tape or other foreign objects may be used to hold film on the reels.

v. The materials used for storage should not ignite, decompose, or develop reactive fumes or vapors.

vi. Film must be stored in a closed container of such inert material as plastic.

vii. At two year intervals, a one percent random sample must be inspected. For each biennial inspection, a different lot sample should be chosen with some samples of the previous lot reinspected. Any signs of deterioration noted must be reported to the Division of Archives and Records Management. Look for signs of peeling emulsion, brittleness, molding and blemishes.

5. Methods of duplication include the use of silver halide, diazo and vesicular film.

i. Silver halide duplication film is the only duplicating film considered suitable for producing microfilm of archival quality. Silver halide film must be used when producing copies of the original master negative intended for archival storage. Although the cost is high compared to other types of duplicating film, both negative and positive copies can be produced.

ii. Diazo duplication film is not considered archival in quality and must not be used to produce master-negative copies of originals. A diazo copy will maintain the same polarity as the original master (negative to negative; positive to positive). Unexposed diazo film has a very short shelf life unless refrigerated. After exposure and processing, diazo film has an estimated

usability of 100 years under ideal storage conditions. Diazo film is less expensive than silver halide film and very durable.

iii. Vesicular duplication film is not archival in quality and must not be used to produce master-negative film. Vesicular film is a reversing process film—the polarity of the copy will be reversed to that of the original master (positive to negative, negative to positive) through exposure and processing by heat. Vesicular film should be only used for short term storage applications. However, when not fully exposed, vesicular film may develop eligible, cosmetic blemishes. Vesicular duplication film may also be considered suitable for distribution or working copies when archival quality is not a factor.

As amended, R.1983 d.241, effective June 20, 1983.  
See: 15 N.J.R. 590(a), 15 N.J.R. 1019(b).

In (a)2iii, added operator's certificate requirement.

Correction: Added missing text to (a)2iii "Should any reel(s) . . . in 3vii below."

See: 18 N.J.R. 1623(b).

Amended by R.1996 d.590, effective December 16, 1996.

See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).

In (a)2ii, deleted reel number target requirement; in (a)2v and (a)4vii, changed Division name; in (a)3v, updated PH reference; in (a)5ii, usability estimate increased from 20 years; and made nonsubstantive changes throughout.

### **15:3-2.16 Notice to Division of Archives and Records Management of intention to microfilm State records**

If, after considering all of the above factors, a particular record series is selected to be microfilmed, notice shall be given to the Division of Archives and Records Management of such intention specifying the record series involved. Such notification will give the Division's technical staff an opportunity to make constructive recommendations shall such be necessary. This will also insure proper conformance with the statute.

Amended by R.1996 d.590, effective December 12, 1996.  
See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).

### **15:3-2.17 Microfilm projects**

(a) The Division of Archives and Records Management shall provide agencies with expert assistance and advise in the establishment and operation of all approved microfilming projects.

(b) All projects that need to be microfilmed shall be undertaken by the Microfilm Unit located in the Division of Archives and Records Management. These projects shall be provided with equipment and supplies on a debit and credit basis, debiting the user the expendable items supplied to them, that is, microfilm machine use, film, and so on. The debit and credit for personnel will be based on the actual working days expended in preparation, filming and checking film for the project. Projects of permanent or lengthy duration, including service contracts with private vendors, may, on approval, be conducted by the Department under whose custody the records remain; provided the following conditions are adhered to:

1. Standard operating procedures for the project shall be instituted and supervised by the Division of Archives and Records Management to insure the accuracy and quality of the work.

2. Full responsibility for maintaining these specifications and standards shall be assumed by the agency conducting the project.

3. Within the limits of time available, the State Microfilm Supervisor shall make periodic inspections to insure that the microfilm standards of the State of New Jersey are being implemented.

As amended, R.1983 d.241, effective June 20, 1983.

See: 15 N.J.R. 590(a), 15 N.J.R. 1019(b).

In (b), added "including service contracts with private vendors."

Amended by R.1996 d.590, effective December 16, 1996.

See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).

### **15:3-2.18 Monthly microfilm activities report**

The supervisor of every microfilm unit shall submit to the Supervisor of Microfilm Services in the Division of Archives and Records Management, Department of State, a monthly activities report. Such report, to be submitted within five working days of the end of the month, shall detail the work accomplished by the unit during the preceding month.

Amended by R.1996 d.590, effective December 16, 1996.

See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).

### **15:3-2.19 Filming, inspection, destruction of records**

Records to be microfilmed by the Microfilm Unit shall be transferred to the Division of Archives and Records Management. When records have been filmed and the film properly inspected, the Division will notify the agency that the original records are eligible for destruction. A Request and Authorization for Records Disposal form shall be used for this purpose.

Amended by R.1996 d.590, effective December 16, 1996.

See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).

### **15:3-2.20 Notice to Division of Archives and Records Management of installation of a permanent microfilm project**

State agencies considering the installation of a permanent microfilm project shall notify the Division of Archives and Records Management in order to obtain approval as to the feasibility of purchasing microfilm equipment or instituting such a project. Additional purchases of equipment will also require the approval of the Division. This includes purchase of computer output microfilm (COM) and computer assisted retrieval (CAR) systems/services and the purchases of all computer-related microfilm technology.

As amended, R.1983 d.241, effective June 20, 1983.

See: 15 N.J.R. 590(a), 15 N.J.R. 1019(b).

Added last sentence.

Amended by R.1996 d.590, effective December 16, 1996.

See: 28 N.J.R. 3513(a), 28 N.J.R. 5183(a).