

## Title 14—Aeronautics and Space

### CHAPTER I—FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Docket No. 16614; Amdt. Nos. 121-141 and 129-8]

#### PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

##### PART 129—OPERATIONS OF FOREIGN AIR CARRIERS

###### Use of X-ray Security Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This rule amends the regulations pertaining to the use of X-ray security systems by domestic, flag and foreign air carriers, and by commercial operators of large aircraft engaging in common carriage. It requires that a copy of the most recent radiation survey be maintained at the certificate holders principal business office and at the place where the X-ray system is in operation and that it be made available for inspection upon request by the Administrator. In addition, this rule requires that a sign be posted informing passengers that they may request a physical inspection of their photographic equipment and film packages without exposure to an X-ray system. The FAA believes that these amendments are necessary to enable the agency to monitor the performance of X-ray systems in a more effective manner and to inform the public that agency regulations allow a physical inspection, in lieu of an X-ray inspection, for photographic equipment and film.

DATE: April 24, 1978.

FOR FURTHER INFORMATION CONTACT:

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#### SUPPLEMENTARY INFORMATION:

##### REGULATORY HISTORY

In Notice No. 77-3 (42 FR 17141, March 31, 1977), the FAA issued a notice of proposed rulemaking pertaining to the use of X-ray security systems by domestic, flag and foreign air carriers, and by commercial operators of large aircraft engaging in common

carriage. This notice proposed that affected certificate holders: (1) maintain a copy of the most recent radiation survey at their principal business office (except foreign air carriers) and at the place where the X-ray system is in operation and make it available for inspection upon request by the Administrator; (2) post a sign informing passengers that they may request a physical inspection of their photographic equipment and film without exposure to an X-ray system; (3) post a sign informing passengers, in the event their X-ray system exposes any carry-on baggage or item to 0.01 milliroentgen or less of radiation during the inspection, that X-ray inspection will not be harmful to any type of film; and (4) post a sign informing passengers, in the event their X-ray system exposes any carry-on baggage or item to more than 0.01 milliroentgen of radiation during the inspection, to remove all X-ray and scientific film from their carry-on baggage before inspection.

Notice No. 77-3 solicited comments with respect to these proposals and also requested comments concerning the continued need for the use of personnel dosimeters by operators of X-ray systems and for the maintenance of records of operator duty time and the results of dosimeter evaluations. Although §§121.538a(4) and 129.26(a)(4) require the use of personnel dosimeters and the keeping of records pertaining to their use, the agency solicited these comments in an attempt to determine whether these requirements should be retained. However, no FAA action pertaining to this aspect of the current rules was proposed in Notice No. 77-3 and the agency now believes that further study will be necessary before deciding whether to propose that these requirements be deleted from the regulations.

##### COMMENTS RECEIVED

In response to Notice No. 77-3, comments were received from American Science and Engineering, Inc. (AS&E), the U.S. Department of Health, Education, and Welfare, Food and Drug Administration (HEW/FDA), Astrophysics Research Corp. (ARC) and the Air Transport Association (ATA).

AS&E commented in favor of all proposals contained in Notice No. 77-3. HEW/FDA stated that it did not believe that personnel dosimeters were necessary for operators of these X-ray systems, provided the equipment in use complied with pertinent FDA requirements. Sections 121.538a and 129.26 currently require compliance with these standards.

ARC stated that it was not necessary to inform passengers, in the event machine radiation levels were 0.01 milliroentgen or less during inspection, that X-ray inspection would not damage

any type of film. ARC was opposed to this proposal because it believed that the current approach to film safety at airports is adequate.

ATA stated that the requirement to use personnel dosimeters and to evaluate their performance should be retained but that records of operator duty time were not necessary. ATA opposed the proposal to require that a copy of the most recent radiation survey be kept at the place where the X-ray system is in operation, since it believes that retention of a copy at the certificate holder's principal business office is sufficient. ATA stated that radiation surveys should be conducted annually (current rules require evaluations on a 6-month basis) and opposed the proposals to change existing signs since it believes these signs are adequate to protect the travelling public.

##### EXPLANATION OF AMENDMENTS

As proposed in Notice No. 77-3, §§121.538a and 129.26 are being amended to require all affected certificate holders to post a sign informing passengers that they have the right to request that a physical inspection be made of their photographic equipment and film packages without exposure to an X-ray system.

Although §§121.538a(e) and 129.26(b)(4) currently require that a physical inspection of photographic equipment and film packages be made upon passenger request, these rules did not require certificate holders to inform passengers that they could request a physical inspection of these items. The agency believes that such a statement is necessary to make sure that passengers understand that FAA regulations do not require them to expose their photographic equipment and film to X-ray inspection.

Signs previously made available to certificate holders by this agency contain a statement informing passengers of this right, so operators using these signs would not be required to change them. Certificate holders desiring to obtain FAA-prepared signs may do so by contacting their respective principal security inspectors.

In Notice No. 77-3, the agency also proposed to amend §§121.538 and 129.26 by requiring that a copy of the results of the most recent radiation survey be maintained at the certificate holder's principal business office (except for foreign air carriers) and at the place where the X-ray system is in operation. The agency proposed that this amendment be made by adding a new paragraph (1) to §121.538 and a new paragraph (c) to §129.26.

The FAA now believes that it would be more appropriate to include this requirement in a new paragraph (f) in §121.538a, since that section prescribes

the requirements for the use of X-ray systems. As proposed in Notice No. 77-3, this provision will be incorporated into §129.26 by adding a new paragraph (c).

In addition, Notice No. 77-3, incorrectly assumed that the most recent radiation survey would always be conducted pursuant to the 6-month requirement contained in §121.538a(b) or §129.26(b)(1) when, in fact, it could be conducted pursuant to §121.538a(c) or §129.26(b)(2) if the X-ray system had been initially installed or moved to another location.

Since the FAA proposed that a copy of the results of the most recent radiation survey be maintained at these specified locations, new §121.538a(f) will reflect the fact that the most recent radiation survey could be conducted pursuant to either §121.538 (b) or (c). To accomplish the same purpose, new §129.26(c) will reflect the fact that the most recent radiation survey could be conducted pursuant to either §129.26 (b)(1) or (b)(2).

The FAA believes that adoption of this proposal is necessary to assure that the results of the most recent radiation survey are immediately available to security inspectors in the field. The agency does not believe that this need would be satisfied if a certificate holder was only required to maintain a copy of the survey results at its principal business office, since security inspectors frequently have a need to examine these documents during the course of inspecting a particular X-ray installation. Requiring that a copy of the survey results be maintained wherever a certificate holder operates an X-ray system assures that agency personnel will have immediate access to these results whenever necessary for the effective performance of their duties.

#### **DIFFERENCE BETWEEN PROPOSED RULE AND FINAL RULE**

If the agency did adopt the 0.01 milliroentgen standard contained in Notice No. 77-3, certificate holders would be required to advise passengers, in the event radiation levels were 0.01 milliroentgen or less, that X-ray inspection would not be harmful to any kind of film. In the event radiation levels were greater than 0.01 milliroentgen, passengers would have to be advised to remove all X-ray and scientific film.

The FAA believes that the current requirement to advise passengers to remove all X-ray and scientific film from carry-on baggage prior to X-ray inspection (without regard to radiation levels) and to remove all film from carry-on baggage in the event radiation exposure exceeds 1 milliroentgen is adequate to protect photographic equipment and film packages from being adversely affected by radiation. Experience under these rules has not revealed any substantiated incidents of damage to film as a result of it being exposed to an X-ray system utilized pursuant to §121.538a or §129.26.

Although the agency does not believe that all kinds of X-ray and scientific film will be damaged whenever exposed to radiation levels of 0.01 milliroentgen or less, we do believe that damage to certain types of highly sensitive X-ray and scientific film is possible and that passengers would be well advised not to take any chances by exposing their X-ray and scientific film to any amount of unnecessary radiation. In addition, since X-ray exposure has a cumulative effect on film, those passengers subjecting the same package of X-ray or scientific film to numerous X-ray inspections would have a greater chance of experiencing film damage.

In addition, the FAA believes that signs advising passengers about X-ray inspections should be as uniform as possible. Under the current rules, all certificate holders may use an identical sign unless a carrier utilizes a system emitting more than 1 milliroentgen of radiation. In this case, passengers must be advised to remove all film prior to inspection, rather than just X-ray and scientific film. However, since only one X-ray system out of the 495 currently in use in the United States is designed to emit more than 1 milliroentgen of radiation, virtually all certificate holders use a standard sign supplied to them by the FAA. Moreover, the International Civil Aviation Organization (ICAO) also recommends that signs posted at airport X-ray systems advise passengers to remove all scientific and X-ray film prior to X-ray inspection (without regard to radiation levels) and to remove all film in the event radiation from the system exceeds 1 milliroentgen.

If the 0.01 milliroentgen standard proposed in Notice No. 77-17 were

adopted, air carriers would then be required to use one of three statements relating to film safety (rather than one of two statements as provided for in the current rules), depending upon the radiation levels emitted from their X-ray systems. The FAA believes that signs relating to film safety should differ only when necessary to protect photographic equipment and film packages from being adversely affected by exposure to radiation. The agency further believes that amending the regulations to require an additional statement relating to film safety in the event radiation levels are 0.01 milliroentgen or less (i.e. X-ray inspection will not be harmful to any type of film) can only expose certain scientific and X-ray film to an increased risk of damage. In addition, adoption of the 0.01 milliroentgen standard could result in passenger confusion as to what type of inspection should be requested, since many passengers would not be aware that signs would vary with the technical performance characteristics of the system in use. Accordingly, the agency does not believe that adoption of this proposal would be in the public interest.

#### **DRAFTING INFORMATION**

The principal authors of this document are T. P. Tsacoumis, Civil Aviation Security Service and Marshall S. Filler, Office of the Chief Counsel.

#### **THE AMENDMENTS**

In consideration of the foregoing, Parts 121 and 129 of the Federal Aviation Regulations (14 CFR Parts 121 and 129) are amended effective April 24, 1976, as follows:

1. By revising paragraph (e) and adding a new paragraph (f) to §121.538a to read as follows:

§121.538a Use of X-ray system.

(e) No certificate holder may use an X-ray system to inspect carry-on baggage or items, unless a sign is posted in a conspicuous place which notifies passengers that such items are being inspected by an X-ray system and advises them to remove all X-ray and scientific film from their carry-on baggage and items before inspection. This sign shall also advise passengers that they may request a physical inspection

to be made of their photographic equipment and film packages without exposure to an X-ray system. If the X-ray system exposes any carry-on baggage or item to more than one milliroentgen during the inspection, the certificate holder shall post a sign which advises passengers to remove film of all kinds from their carry-on baggage and items before inspection. If requested by passengers, their photographic equipment and film packages shall be physically inspected without exposure to an X-ray system.

(f) Each certificate holder shall maintain at least one copy of the results of the most recent radiation survey conducted under paragraph (b) or (c) of this section, and shall make it available for inspection upon request by the Administrator, at each of the following locations:

(1) The certificate holder's principal business office; and

(2) The place where the X-ray system is in operation.

2. By revising paragraph (b)(4) and adding a new paragraph (c) to § 129.26 to read as follows:

§ 129.26 Use of X-ray system.

(b) . . .

(4) Unless a sign is posted in a conspicuous place which notifies passengers that carry-on baggage or items are being inspected by an X-ray system and advises them to remove all X-ray and scientific film from their carry-on baggage and items before inspection. This sign shall also advise passengers that they may request a physical inspection to be made of their photographic equipment and film packages without exposure to an X-ray system. If the X-ray system exposes any carry-on baggage or item to more than one milliroentgen during the inspection, the foreign air carrier shall post a sign which advises passengers to remove film of all kinds from their carry-on baggage and items before inspection. If requested by passengers, their photographic equipment and film packages shall be physically inspected without exposure to an X-ray system.

(c) Each foreign air carrier shall maintain at least one copy of the results of the most recent radiation survey conducted under paragraph (b)(1) or (b)(2) of this section at the place where the X-ray system is in operation and shall make it available for inspection upon request by the Administrator.

(Secs. 313(a), 315, 316, and 601 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1356, 1357, and 1421), and Sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).)

NOTE.—The Federal Aviation Administration has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended by Executive Order 11949, and OMB Circular A-107.

Issued in Washington, D.C., on March 16, 1978.

LANCHORNE BOND,  
Administrator.

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