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[Revised as of January 1, 1964]

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Presidential Documents

Title 3—THE PRESIDENT

Proclamation 3627

THANKSGIVING DAY, 1964

By the President of the United States of America

A Proclamation

As the harvest season draws to a close and our storehouses bulge with the bounty of the land, it is our desire to observe, in the custom and tradition of our forebears, a special day dedicated to giving thanks to God—a day on which to lay aside our daily tasks and cares and pay joyous homage to Him. We are impelled to raise our voices in His praise and to proclaim our heartfelt gratitude for another year in which we have been blessed with a bountiful harvest, with intellectual, humanitarian, economic, scientific, and technical advances and achievements, and with other gains too numerous to mention.

Although we have been blessed with unsurpassed prosperity, we recognize that poverty and want exist throughout the world—even among us—and we pledge ourselves to the eradication of those evils.

We know, too, that the foundation for a peaceful world is still to be built and that even now armed strife exists in parts of the world. We are saddened that gallant men of our Armed Services have fallen in the eternal quest for peace with freedom, dignity, and justice for all. We share with their bereaved families and friends a sense of tragic loss. In the words of Abraham Lincoln, we resolve "that these honored dead shall not have died in vain," and vow that their loss will supr us ever onward until man's great dream of universal peace is realized.

Yet we are filled with an instinctive impulse to give thanks for

—our free society of free men, free institutions, and free elections;

—our freedom of speech, our freedom of the press, and our freedom to worship as our conscience dictates;

—our emphasis upon the dignity, equality, and worth of man;

—our humanitarian instincts;

—our unalienable right to life, liberty, and the pursuit of happiness;

—our confidence in our ability to meet the challenges of today and of the future.

For these are the things that set us apart as a Nation—that made our Nation great—that will keep our Nation great.

So as our forefathers in Virginia, in New England, and throughout this land have done for more than three and one-half centuries, let us appoint a special day on which all of us, in keeping with the dictates of our own conscience, will give thanks to the Lord for His manifold blessings. And on that day, let us rededicate ourselves to meeting the challenges of the present with the fortitude and faith with which our forefathers met the challenges of the past.

NOW, THEREFORE, I, LYNDON B. JOHNSON, President of the United States of America, in consonance with the joint resolution of the Congress approved December 26, 1941, 55 Stat. 862 (5 U.S.C. 87b), designating the fourth Thursday of November in each year as Thanksgiving Day, do hereby proclaim Thursday, November 26, 1964, as a day of national thanksgiving.

On that day, let us gather in our homes and in our places of worship and in other suitable places to give thanks to God for His graciousness and His generosity to us—to pledge to Him our everlasting devotion—

to beseech His divine guidance and the wisdom and strength to recognize and follow that guidance—and to pray to Him that the forces of evil, violence, indifference, intolerance, and inhumanity may soon vanish from the face of the earth and that peace, reason, understanding, and goodwill may reign supreme throughout the world.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

DONE at the City of Washington this 13th day of November in the year of our Lord nineteen hundred and sixty-four, and [SEAL] of the Independence of the United States of America the one hundred and eighty-ninth.

LYNDON B. JOHNSON

By the President:

DEAN RUSK,
Secretary of State.

[F.R. Doc. 64-11780; Filed, Nov. 16, 1964; 10:40 a.m.]

Rules and Regulations

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Agency

[Regulatory Docket No. 5065]

PART 37—TECHNICAL STANDARD ORDER AUTHORIZATIONS [NEW]

This amendment adds Part 37 "Technical Standard Order Authorizations" [New] to the Federal Aviation Regulations to replace the requirements contained in Part 514 of the Regulations of the Administrator and is part of the Agency recodification program. Part 37 [New] was published as a notice of proposed rule making in the FEDERAL REGISTER on May 19, 1964 (29 F.R. 6499).

A number of changes have been made in the proposal, both as a result of comments received and as a result of further review by the Agency. Some of the comments received recommended substantive changes of the regulations. Although some of these recommendations might, upon further study, appear to be meritorious, they cannot be adopted as a part of the recodification program. However, all comments of this nature will be preserved and considered in any later substantive revision of this part.

A number of comments urged that the footnote contained in § 514.1(b) be retained to show that an article may be approved by measures other than a Part 37 Technical Standard Order. Although it is true that the Technical Standard Order is only one method of approval of an article, the present footnote is, itself, too restrictive. In addition to the one alternative set out in the footnote—approval as a part of the type design of a product—an article may also be approved on an individual basis by an authorized representative of the Administrator. To prevent any misunderstanding, all three of these methods will be listed specifically in § 21.305 of Part 21 [New].

In accordance with several comments, the note after § 514.5(b) of the regulations of the Administrator has been retained in § 37.11(c).

A comment also pointed out the deletion of the note following § 514.2(d)(2) of the regulations of the Administrator. The note contained a 30-day time restriction on notification of approval or denial of an application for a TSO authorization. In order to assure an applicant of notification within 30 days of receipt of his application, or addition thereto, a new § 37.5(d) incorporating that note has been added to Part 37 [New].

Deleted from proposed Part 37 [New] was the last sentence of § 514.2(d)(2) of the regulations of the Administrator, relating to the time for filing of additional information. The Agency now believes that inclusion in Part 37 [New] of this sentence will eliminate the possibility of a premature denial of an application as well as any unnecessary prolongation of the period during which an application must remain open, pending receipt of additional information. Therefore, a new § 37.5(c) has been added to Part 37, incorporating the last sentence of proposed § 37.5(a) and the last sentence of § 514.2(d)(2).

The functions of an "Engineering and Manufacturing Branch, Flight Standards Division" are conducted in the Western Region by the "Aircraft Engineering Division". Parenthetical additions to §§ 37.5(a), 37.9(b), 37.11(a), and 37.17 reflect this difference in Western Region organization.

No changes have been made to the TSO's in Subpart B of Part 514 except to renumber the sections and to reflect the fact that they are no longer issued by the Civil Aeronautics Administration under delegated authority from the Civil Aeronautics Board.

Other minor changes of a technical nature have been made. They are not substantive and do not impose any burden on regulated persons.

The definitions, abbreviations, and rules of construction contained in Part 1 [New] of the Federal Aviation Regulations apply to Part 37 [New].

In consideration of the foregoing, Chapter III of Title 14 of the Code of Federal Regulations is amended, effective January 4, 1965, by deleting Part 514 and Chapter I of Title 14 is amended by adding Part 37 [New] reading as hereinafter set forth.

This amendment is made under the authority of sections 313(a) and 601 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a) and 1421).

Issued in Washington, D.C., on October 7, 1964.

N. E. HALABY,
Administrator.

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AUTHORITY: The provisions of this Part 37 issued under secs. 313(a), 601, 72 Stat. 752, 775; 49 U.S.C. 1354(a), 1421.

Subpart A—General

§ 37.1 Applicability.

(a) This part prescribes—

(1) Requirements for the issue of Technical Standard Order Authorizations; and

(2) Technical Standard Orders (hereafter referred to in this part as "TSO's") containing minimum performance and quality control standards for specified materials, parts, or appliances (hereafter referred to in this part as "articles") used on civil aircraft.

(b) The performance standards in each TSO are those that the Administrator finds necessary to ensure that the article concerned will operate satisfactorily or will accomplish satisfactorily its intended purpose under specified conditions.

(c) An article manufactured under a TSO authorization or an FAA letter of acceptance as described in § 37.3(b), is an approved article for the purpose of meeting the regulations of this chapter that require the article to be approved.

(d) For the purposes of this part, a manufacturer is a person who controls the design and quality of an article produced under the TSO system (or to be produced, in the case of an application) including the parts thereof and any processes or services related thereto that are procured from an outside source.

§ 37.3 TSO authorization required.

(a) Except as provided in paragraph (b) of this section, no person may identify an article with a TSO marking unless he holds a TSO authorization and the article meets applicable TSO standards.

(b) The holder of an FAA letter of acceptance of a statement of conformance issued for an article before July 1, 1962, may continue to manufacture that article without obtaining a TSO authorization, but shall comply with the requirements of §§ 37.7 through 37.21.

§ 37.5 Application and issue.

(a) The manufacturer (or his authorized agent) must submit an application for a TSO authorization, together with the following documents, to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, of the region in which the manufacturer is located (or, in the case of the Western Region, the Chief, Aircraft Engineering Division):

(1) A statement of conformance certifying that the applicant has met the requirements of this subpart and that the article concerned meets the applicable performance standards of Subpart B of this part.

(2) Copies of the technical data required in the applicable performance standards of Subpart B of this part.

(3) A description of his quality control system in the detail specified in § ------ (§ 1.36) of this chapter.

In complying with this paragraph, the manufacturer may refer to current quality control data filed with the FAA as a part of a previous application. When a series of minor changes in accordance with § 37.11 is anticipated, the manufacturer may set forth in his application the basic model number of the article with open brackets after it to denote that suffix change letters will be added from time to time.

(b) After receiving the application and other documents required by paragraph (a) of this section to substantiate the manufacturer's compliance with this part and his ability to produce duplicate articles under this part, the Administrator issues a TSO authorization to the manufacturer to identify the article with the applicable TSO marking.

(c) If the application is deficient, the applicant must, when requested by the Administrator, submit any additional information necessary to show compliance with this part. If the applicant fails to submit the additional information within 30 days after the Administrator's request, his application is denied and the applicant is so notified.

(d) The Administrator issues or denies the application within 30 days after its receipt or, if additional information has been requested, within 30 days after receiving that information.

§ 37.7 General rules governing holders of TSO authorizations.

Each manufacturer of an article for which a TSO authorization has been issued under this part must—

(a) Manufacture the article in accordance with Subpart A of this part and the applicable requirements of Subpart B of this part;

(b) Conduct all required tests and inspections, and establish and maintain a quality control system adequate to ensure that the article meets the requirements of paragraph (a) of this section and is in condition for safe operation;

(c) Prepare and maintain, for each model of each article for which a TSO authorization has been issued, a current file of complete technical data and records in accordance with § 37.13; and

(d) Permanently and legibly mark each article to which this section applies with the following information:

(1) The name and address of the manufacturer.

(2) The name, type, or model designation of the article.

(3) The weight of the article to the nearest 1/10 of a pound.

(4) The serial number or the date of manufacture of the article, or both.

(5) The applicable TSO number.

§ 37.9 Approval for deviation.

(a) Each manufacturer who requests approval to deviate from any performance standard of Subpart B of this part must show that the standards from which a deviation is requested are compensated for by factors or design features providing an equivalent level of safety.

(b) The request for approval to deviate, together with all pertinent data, must be submitted to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, of the region in which the manufacturer is located (or, in the case of the Western Region, the Chief, Aircraft Engineering Division).

§ 37.11 Design changes.

(a) *Minor changes by the manufacturer holding the authorization.* The manufacturer of an article under an authorization issued under this part may make minor design changes (any change other than a major change) without further approval by the Administrator. In this case, the changed article keeps the original model number and the manufacturer shall forward to the appropriate Chief, Engineering and Manufacturing Branch (in the case of the Western Region, the Chief, Aircraft Engineering Division), any revised data that is necessary for compliance with § 37.5 (a).

(b) *Major changes by manufacturer holding the authorization.* Any design change by the manufacturer that is extensive enough to require a substantially complete investigation to determine compliance with Subpart B of this part is a major change. Before making such a change, the manufacturer must assign a new type or model designation to the article and apply for an authorization under § 37.5.

(c) *Changes by person other than manufacturer.* No design change by any person (other than the manufacturer who submitted the statement of conformance for the article) is eligible for approval under this part, unless the person seeking the approval is a manufacturer and applies under § 37.5(a). Persons other than a manufacturer may obtain approval for design changes under Part 43 [New] or under the applicable airworthiness regulations.

§ 37.13 Recordkeeping requirements.

(a) *Keeping of records.* Each manufacturer holding a TSO authorization under this part shall, for each article manufactured under that authorization, keep the following records at his factory:

(1) A complete and current technical data file for each type or model article, including design drawings and specifications.

(2) Complete and current inspection records showing that all inspections and tests required to assure compliance with this part have been properly done and documented.

(b) *Retention of records.* The manufacturer shall retain the records described in paragraph (a) (1) of this section until he no longer manufactures the article concerned under this part. At that time, he shall send copies of these records to the Administrator. The manufacturer shall retain the records described in paragraph (a) (2) of this section for a period of at least two years.

§ 37.15 FAA inspection.

Upon the request of the Administrator, each manufacturer of an article under a TSO authorization shall allow the Administrator to inspect—

(a) Any article manufactured under that authorization;

(b) The manufacturer's quality control inspections and tests;

(c) The manufacturing facilities; and

(d) The technical data files on that article.

§ 37.17 Manufacturing and design defects.

Whenever the investigation of an accident or service difficulty report shows that an article manufactured under a TSO authorization is unsafe because of a manufacturing or design defect, the manufacturer shall, upon the request of the Administrator, report to the Administrator the results of his investigation and any action, taken or proposed by the manufacturer, to correct that defect. If action is required to correct the defect in existing articles, the manufacturer shall submit to the appropriate Chief, Engineering and Manufacturing Branch (in the case of the Western Region, the Chief, Aircraft Engineering Division), the data necessary for the issue of an appropriate airworthiness directive.

§ 37.19 Noncompliance.

The Administrator may, upon notice, withdraw the TSO authorization of any manufacturer who identifies with a TSO marking an article not meeting the applicable performance standards of this part.

§ 37.21 Transferability and duration.

An authorization issued under this part is not transferable and is effective until surrendered, or withdrawn or otherwise terminated by the Administrator.

Subpart B—Technical Standard Orders

§ 37.111 Technical Standard Order Cla: "Smoke Detectors".

(a) *Introduction.* (1) This Technical Standard Order is intended to serve as a criterion by which the product manufacturer can obtain approval of his smoke detector.

(2) In the establishment of this Technical Standard Order, consideration has been given to existing Government and industry standards for smoke detectors for the purpose of adopting the performance requirements of one of the recognized aeronautical standards as the minimum safety requirements for smoke detectors which are intended for use in civil aircraft. The specification of the Society of Automotive Engineers for smoke detectors contains such requirements.

(b) *Directive*—(1) *Provisions.* The performance requirements for smoke detectors as set forth in SAE Specification AS–400, Smoke Detectors, dated July 1, 1947,[1] stated below, with the exceptions hereinafter noted, are established as the minimum safety requirements for smoke detectors which are intended for use in civil aircraft:

1. *Purpose.* To specify minimum requirements for smoke detection instruments for use in aircraft, the operation of which may subject the instrument to environmental conditions specified in section 3.4.

2. *Scope.* This specification covers two basic types as follows:

Type I. Carbon monoxide.

Type II. Photoelectric cell.

3. *General requirements.*

3.1. *Material and workmanship.*

3.1.1. *Material.* Materials shall be of a quality which experience or tests have demonstrated to be suitable and dependable for use in aircraft instruments.

3.1.2. *Workmanship.* Workmanship shall be consistent with high-grade aircraft instrument manufacturing practice.

3.2. *Radio interference.* The instrument shall not be the source of objectionable interference, under operating conditions at any frequencies used on aircraft, either by radiation or feed-back, in radio sets installed in the same aircraft as the instrument.

3.3. *Identification.* The following information shall be legibly and permanently marked on the instrument or attached thereto:

(a) Name of instrument (smoke detector).

(b) SAE Spec. AS–400.

(c) Rating (electrical, vacuum, etc.).

(d) Manufacturer's part number.

(e) Manufacturer's serial number or date of manufacture.

(f) Manufacturer's name and/or trademark.

3.4. *Environmental conditions.* The following conditions have been established as design criteria only. Tests shall be conducted as specified in sections 5, 6, and 7.

3.4.1. *Temperature.* When mounted in accordance with the instrument manufacturer's instructions, the instrument shall function over the range of ambient temperature of −55° C. to 60° C. and shall not be adversely affected by exposure to temperatures in the range −65° C. and to 70° C.

3.4.2. *Humidity.* The instrument shall function and not be adversely affected when exposed to a relative humidity of up to and including 95% at a temperature of approximately 32° C.

3.4.3. *Altitude.* The instrument shall function and not be adversely affected when subjected to a pressure and temperature range equivalent to −1,000 feet to +40,000 feet standard altitude.

3.4.4. *Vibration.* When mounted in accordance with the instrument manufacturer's instructions, the units shall function and shall not be adversely affected when subjected to the following vibrations:

Type of instrument mounting	Cycles per minute [1]	Amplitude [1]	Max. acceleration
		Inch	
Shock mounted panel instruments	500–3000	0.005	0.8 g
Unshock mounted panel instruments	500–3000	.010	1.3 g
Airframe structure mounted instruments	500–3000	.030	3.8 g

[1] It is understood that the unit shall withstand vibrations at higher frequencies, but the acceleration values need not exceed those shown above.

When specified by the purchaser for use in rotary wing aircraft, the frequency range shall be 150–3000 cycles per minute.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

4. *Detail requirements.*

4.1. *Design.*

4.1.1. The instrument shall consist of a means for:

Type I: Testing air for contamination with gaseous products of combustion. It shall include an alarm circuit or control circuit which will indicate the presence of contamination when it reaches a concentration of not more than 0.010% of carbon monoxide by volume.

Type II: Testing air for contamination with smoke or gas of all colors or particle sizes. It shall include an alarm circuit or control circuit which will indicate the presence of contamination which reduces the light transmission to not less than 90% of that of clean air. Percentage of transmission is defined as the light falling on a photoelectric cell through a one foot distance as compared to the light transmitted in clear air.

4.1.2. A means shall be incorporated in the design to admit the air sample to the sensitive element of the instrument in a positive manner.

4.2. *Indicating method.* The instrument shall be capable of actuating both visual and aural alarm indicators.

4.3. *Reliability.* False signals in the instrument shall not result from variations in voltage (+25% and −100% of the rated), flight altitude, accelerations encountered in flight or landing, and from normal amounts of dust they may accumulate within the instrument under normal flight operation.

4.4. *Integrity test provision.* The instrument shall be provided with a means for being tested in flight. The test shall cause operation of the alarm circuit or control circuit by initiating the sequency of actions through a disturbance in the instrument.

4.5. *Sampling characteristics.* When an instrument installation is designed to divert the air samples from more than one sampling station, it shall cycle at a rate not to exceed 30 seconds per sampling station, in which case, flow of air through all the sampling conduits shall be maintained continuously. In addition, when a smoke alarm is indicated, an alarm shall be actuated to indicate the location in which the smoke or gas is being generated and to continue to indicate the alarm until the condition is eliminated. It shall begin cycling in a normal manner within 30 seconds after releasing the alarm signal.

5. *Test conditions.*

5.1. *Atmospheric conditions.* Unless otherwise specified, all tests required by this specification shall be made at an atmospheric pressure of approximately 29.92 inches of mercury and at an ambient temperature of 22° C. When tests are made with the atmospheric pressure or the temperature substantially different from these values, allowance shall be made for the variations from the specified conditions.

5.2. *Vibration (to minimize friction).* Unless otherwise specified, all tests for performance may be made with the instrument subjected to a vibration of 0.002 to 0.005 inch amplitude at a frequency of 1,500 to 2,000 cycles per minute. The term amplitude as used herein indicates the total displacement from positive maximum to negative maximum.

5.3. *Vibration stand.* A vibration stand shall be used which will vibrate at any desired frequency between 500 and 3,000 cycles per minute and shall subject the instrument to vibration such that a point on the instrument will describe, in a plane inclined 45 degrees to the horizontal plane, a circle, the diameter of which is equal to the amplitude specified herein.

5.4. *Test position.* Unless otherwise specified, the instrument shall be mounted and tested in its normal operation position.

5.5. *Air sample.* Unless otherwise specified, air samples shall be as follows:

(1) Air containing 0.01% plus or minus 0.005% carbon monoxide, or

(2) Air containing smoke or gas having a light transmission value of 85% to 92% of that of clear air.

5.6. *Power conditions.* Unless otherwise specified all tests for performance shall be conducted at the power rating recommended by the manufacturer.

6. *Individual performance requirements.* All instruments, or components of such, shall be subjected to whatever tests the manufacturer deems necessary to demonstrate specific compliance with this specification including the following requirements where applicable.

6.1 *Response time.* The instrument shall be tested, so that, when an air sample per section 5.5 is introduced into the instrument under normal room temperature and atmospheric pressure conditions the alarm circuit or control circuit shall be energized within a maximum of 30 seconds.

6.2. *Dielectric.* The insulation shall be subjected to a dielectric test with an R. M. S. voltage at a commercial frequency applied for a period of 5 seconds equivalent to 5 times normal circuit operating voltage, except where circuits include components for which such a test would not be appropriate the test voltage shall be 1.25 times the normal circuit operating voltage. The insulation response shall not be less than 20 megohms at that voltage.

7. *Qualification tests.* As many instruments as deemed necessary to demonstrate that all instruments will comply with the requirements of this section shall be tested in accordance with the manufacturer's recommendations. The tests of each instrument shall be conducted consecutively and after the tests have been initiated, no further adjustments of the instrument shall be permitted. For those instruments which employ a cycling device for testing a multiplicity of locations with one instrument, these tests shall be conducted on the basis of a single sample station. During these tests no false alarm shall result.

7.1. *Stability.* The instrument shall be operated continuously for 24 hours at room temperature. At the end of the first and twenty-fourth hour of operation a sample of air, per section 5.5, shall be introduced into the instrument and the time required for operation of the alarm circuit or control circuit shall not exceed 30 seconds.

7.2. *Suction variation.* The instrument shall be operated continuously by varying the suction from 25% below to 25% above the rated. At each of these values a sample of air, per section 5.5, shall be introduced into the instrument and the time required for operation of the alarm circuit or control circuit shall not exceed 30 seconds.

7.3. *Voltage variation.* The instrument shall be operated with the voltage varying from 110% to 85% of the rated voltage. The instrument shall then be tested with an air sample, per section 5.5, and the response time shall not exceed 30 seconds.

7.4. *High temperature.* The instrument shall be exposed to a temperature of 70° C. for a period of 6 hours after which it shall be tested with air at 60° C. for a period of 30 minutes without giving a false alarm. The instrument shall then be tested with an air sample, per section 5.5, and the response time shall not exceed 30 seconds.

7.5. *Low temperature.* The instrument shall be exposed to a temperature of −65° C. for a period of 24 hours, after which it shall be raised to a temperature of −55° C. for a period of 6 hours. After operating for 30 minutes at a temperature −55° C., without giving a false alarm, the response time to the air sample in section 5.5 shall not exceed 30 seconds.

7.6. *Humidity.* The instrument shall be subjected to an atmosphere 32° C. with a relative humidity of 95%, with the air sample being taken from the same atmosphere. After operating in this manner for 5 hours, an air sample per section 5.5, shall be introduced into the instrument and the time required for operation of the alarm circuit or control circuit shall not exceed 30 seconds.

7.7. *Altitude effect.* The instrument shall be subjected to an altitude pressure equivalent to 40,000 feet. After operating in this manner continuously for five hours the time required for reaction of the alarm circuit or control circuit, on a sample of air per section 5.5, shall not exceed 30 seconds.

7.8. *Vibration.* The instrument shall be mounted on a vibration stand, in its own shock-mounted base, if provided with one, in its normal operating plane. The test shall be conducted with the instrument in normal operation condition. The instrument shall be subjected to vibration with an amplitude between 0.003 and 0.005 inch at frequencies from 500 to 3,000 cycles per minute, in order to determine whether the natural frequency of the instrument does occur in this frequency range.

7.9. *Vibration endurance.* With the instrument mounted on a vibration stand, per section 7.8 and with the instrument in a normal operating condition, it shall be vibrated continuously at a total amplitude of 0.03 inch for a period of 24 hours at the natural frequency, if applicable, as determined in section 7.8, or if not applicable at a frequency of 2,000 cycles per minute. At the completion of this test the instrument shall be examined to determine that no looseness in the mechanism nor damage to any part has resulted from the vibration and also, it shall be subjected to a sample of air introduced into it as per section 5.5 and the response time shall not exceed 30 seconds.

(2) *Exceptions.* Section 4.1.1, *Design.* Second sentence of Type II: "It shall include an alarm circuit or control circuit which will indicate the presence of contamination which reduces the light transmission to not less than 84 percent nor more than 96 percent of that of clear air.

Section 5.5, *Air sample.* Subparagraph (2): "Air containing smoke or gas having a light transmission value of 84 percent to 96 percent of that of clear air. A bar placed across light path to provide necessary light cut-off which has been calibrated against smoke may be used in place of actual smoke samples."

Section 7.3, *Voltage variation.* "The instrument may be operated with the voltage varying from 110 percent to 90 percent of the rated voltage. The response time to an air sample per section 5.5 shall not exceed 30 seconds."

Section 7.4, *High temperature.* "An air temperature of 45° C. is acceptable for the test after six hours of exposure at 70° C. The response time to an air sample per section 5.5 shall not exceed 30 seconds."

Section 7.5, *Low temperature.* "The instrument may be exposed to a temperature of −54° C. for a period of 24 hours after which time it shall be operated for a period of 30 minutes at −54° C. without giving a false alarm. The response time to an air sample per section 5.5 shall not exceed 30 seconds."

(3) *Application.* (i) Smoke detectors complying with the specifications appearing in this order are hereby approved for all aircraft. Smoke detectors already approved may continue to be installed in aircraft:

(*a*) For which an application for original type certificate is made prior to the effective date of this order.

(b) The prototype of which is flown within 1 year after the effective date of this order, and

(c) The prototype of which is not flown within 1 year after the effective date of this order if due to causes beyond the applicant's control.

(ii) If a major change is made in the installation within 9 months after the effective date of this order involving a change in type or model of smoke detector, previously approved types of smoke detectors may be installed. However, in any such change made after the 9-month period, new types of smoke detectors installed shall meet the specifications contained in this section.

(c) *Specific instructions*—(1) *Marking.* In addition to the identification information required in the referenced specification, each smoke detector shall be permanently marked with the Technical Standard Order designation, "FAA–TSO–C1a" to identify the smoke detector as meeting the requirements of this order in accordance with the manufacturer's statement of conformance outlined below. The Administrator accepts this identification as evidence that the established minimum safety requirements for the smoke detector have been met.

(2) *Data requirements.* Ten copies of the following technical information shall be submitted to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency in the region in which the manufacturer is located:

Installation recommendations prepared by the manufacturer covering the proper location, mounting, test circuits, and related technical information essential to insure proper functioning and maintenance of the unit as installed in the aircraft.

(3) *Effective date.* After June 1, 1948, specifications contained in this Technical Standard Order will constitute the basis for approval of smoke detectors for use in certificated aircraft.

(4) *Deviations.* Requests for deviation from, or waiver of, the requirements of this order, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the FAA (address as noted under "Data requirements" above), a written statement of conformance signed by a responsible official of his company, setting forth that the smoke detector to be produced by him meets the minimum safety requirements established in this order. Immediately thereafter distribution of the smoke detector conforming with the terms of this order may be started and continued.

(ii) The prescribed identification on the smoke detector does not relieve the aircraft manufacturer or owner of responsibility for the proper application of the smoke detector in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this order are brought to the attention of the Federal Aviation Agency and investigation indicates that such complaints are justified, the Administrator will take appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order may be obtained from the Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.112 Airspeed indicator (pitot static)—TSO–C2b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airspeed indicators which specifically are required to be approved for use in the civil aircraft of the United States. New models of airspeed indicators (pitot static) manufactured for installation on civil aircraft on or after November 1, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–391B, "Airspeed Indicator (Pitot Static)," dated December 15, 1954.[1] Airspeed indicators (pitot static) approved by the Civil Aeronautics Administration prior to November 1, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the marking requirement of § 37.7(c) the range shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy of manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.113 Technical Standard Order C3a: "Turn-and-Bank Indicator".

(a) *Introduction.* (1) This Technical Standard Order is intended to serve as a criterion by which the product manufacturer can obtain approval of his turn-and-bank indicator.

(2) In the establishment of this Technical Standard Order, consideration has been given to existing Government and industry standards for turn-and-bank indicators for the purpose of adopting the performance requirements of one of the recognized aeronautical standards as the minimum safety requirements for turn-and-bank indicators which are intended for use in civil aircraft. The specification of the Society of Automotive Engineers for turn-and-bank indicators contains such requirements.

(b) *Directive*—(1) *Provision.* The performance requirements for turn-and-bank indicators as set forth in SAE Specification AS–395, Turn-and-Bank Indicator, dated July 1, 1947,[1] stated below, are hereby established as minimum safety requirements for turn-and-bank indicators which are intended for use in civil aircraft:

1. *Purpose.* To specify minimum requirements for turn and bank indicators for use in aircraft, the operation of which may subject the instruments to the environmental conditions specified in section 3.4.

2. *Scope.* This specification covers three basic types of instruments as follows:

Type I. Air driven.
Type II. DC operated.
Type III. AC operated.

3. *General requirements.*

3.1. *Materials and workmanship.*

3.1.1. *Materials.* Materials shall be of a quality which experience and/or tests have demonstrated to be suitable and dependable for use in aircraft instruments.

3.1.2. *Workmanship.* Workmanship shall be consistent with high grade aircraft instrument manufacturing practice.

3.2. *Radio interference.* The instrument shall not be the source of objectionable interference, under operating conditions at any frequencies used on aircraft, either by radiation or feed back, in radio sets installed in the same aircraft as the instrument.

3.3. *Identification.* The following information shall be legibly and permanently marked on the instrument or attached thereto:

(a) Name of instrument (Turn and bank indicator).
(b) SAE Specification, AS–395.
(c) Rating (nominal electric or vacuum, etc.).
(d) Manufacturer's part number.
(e) Manufacturer's serial number or date of manufacture.
(f) Manufacturer's name or trademark.

3.4. *Environmental conditions.* The following are established design criteria only. All tests shall be run as per sections 5, 6, and 7.

3.4.1. *Temperature.* When installed in accordance with the instrument manufacturer's instructions the instrument shall function over the range of ambient temperature from −30° C. to 50° C. and shall not be adversely affected by exposure to temperatures in the range of −65° C. to 70° C.

3.4.2. *Humidity.* The instrument shall function and shall not be adversely affected when exposed to a relative humidity of up to and including 95% at a temperature of approximately 32° C.

3.4.3. *Altitude.* The instrument shall function and shall not be adversely affected when subjected to a pressure and temperature range equivalent to −1,000 to 40,000 feet standard altitude except that the instrument temperature shall not be lower than −30° C.

3.4.4. *Vibration.* When installed in accordance with the instrument manufacturer's instructions the instruments shall function and not be adversely affected when subjected to vibrations of not more than 0.010 inch at a frequency from 500 to 3,000 cycles per minute or of not more than 1.3 g. When specified by the purchaser for use in rotary wing aircraft, the frequency range shall be 150–3,000 cycles per minute.

NOTE: It is understood that the unit shall withstand vibration at higher frequencies, but the acceleration values need not exceed those shown above.

4. *Detail requirements.*

4.1. *Indicating method.* Turns shall be indicated by means of a pointer, deflecting in direction of turn. Banks shall be indicated by means of a black ball, free to move in a curved transparent tube.

4.2. *Visibility.* Both bank and turn indications shall be visible from any point within the frustum of a cone whose side makes an angle of not less than 30 degrees with the perpendicular to the dial and whose small diameter is the aperture of the instrument case. The distance between the dial and the cover glass shall be a practical minimum and shall not exceed 0.187 inch.

4.3. *Dial markings.*

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

4.3.1. *Finish.* Unless otherwise specified, luminescent (self-activating) material shall be applied to all markings, pointer and the inclinometer backing.

4.3.2. *Letters.* Letters "L" and "R" shall be legibly marked on the dial.

4.3.3. *Instrument name.* The words "Turn and Bank" shall be marked and may be indicated in the same finish as the letters.

4.4. *Power variations* The instrument shall properly function with a voltage and frequency variation of ±10% of the rated value (provided the a. c. voltage and frequency vary in the same direction) and/or ±30% of the rated vacuum pressure.

5. *Test conditions.*

5.1. *Atmospheric conditions.* Unless otherwise specified, all tests required by this specification shall be made at an atmospheric pressure of approximately 29.92 inches of mercury and at an ambient temperature of approximately 22° C. When tests are made with atmospheric pressure or temperature substantially different from these values allowance shall be made for the variation from the specified conditions.

5.2. *Vibration (to minimize friction).* Unless otherwise specified all tests for performance may be made with the instrument subjected to a vibration of 0.002 to 0.005 inch amplitude at a frequency of 1,500 to 2,000 cycles per minute. The term amplitude as used herein indicates the total displacement from positive maximum to negative maximum.

5.3. *Vibration stand.* A vibration stand shall be used which will vibrate at any desired frequency between 500 and 3,000 cycles per minute and shall subject the instrument to vibration such that a point on the instrument case will describe in a plane inclined 45 degrees to the horizontal plane, a circle, the diameter of which is equal to the amplitude specified herein.

5.4. *Turntable.* A turntable which can be operated smoothly through the ranges specified herein shall be used for making calibration tests.

5.5. *Power conditions.* Unless otherwise specified all tests for performance shall be conducted at the power rating recommended by the manufacturer.

5.6. *Normal operation.* All instruments shall be operated at normal power for at least five minutes prior to conducting any tests (unless otherwise specified).

6. *Individual performance requirements.* All instruments or components of such shall be subjected to whatever tests the manufacturer deems necessary to demonstrate specific compliance with this specification including the following requirements where applicable.

6.1. *Bank indicator zero position.* With the instrument in normal position with the lower mounting holes on a horizontal line, the position of the ball shall be within 1/32 inch of the zero position.

6.2. *Bank indicator friction.* The ball shall move smoothly and without sticking throughout the full length of the tube.

6.3. *Bank indicator visibility.* With the ball in the extreme position at each end of the tube at least one half of it shall be visible from a point 12 inches directly in front of the zero mark.

6.4. *Bank indicator filling.* The instrument shall be rotated so that all the air in the tube is trapped in the expansion chamber. Then, with the plane of the dial vertical, the instrument shall be rotated to an angle of roll of 45°. With the expansion chamber end of the tube low, no part of the air bubble shall be visible from a point 12 inches directly in front of the bank indicator zero position.

6.5. *Turn indicator starting.*

6.5.1. *Type I requirements.* The gyro rotor shall start to rotate and continue to run on a suction not to exceed 50% of rated value. Rated instrument performance speed shall be reached within five minutes after normal rated suction is applied.

6.5.2. *Types II and III requirements.* The gyro rotor shall start to rotate and continue to operate at a speed sufficient for proper performance of the instrument on an applied voltage not to exceed 80% of the rated voltage. This speed shall be reached within five minutes after application of the voltage.

6.6. *Turn indicator sensitivity, room temperature.* Starting in normal position and operating under rated power, the instrument shall be rotated about the vertical axis at the rates specified in Table I. Deflections of the turn indicator pointer shall be of the magnitude shown in Table I. Pointer motion shall be smooth.

6.7. *Dielectric test.* (Types II and III only.) The insulation shall be subjected to a dielectric test with a R. M. S. voltage at a commercial frequency applied for a period of five seconds equivalent to five times normal circuit operating voltage. Except where circuits include components for which such a test would not be appropriate, then the test voltage shall be 1.25 times normal circuit operating voltage. The insulation resistance shall not be less than 20 megohms at that voltage.

7. *Qualification tests.* As many instruments as deemed necessary to demonstrate that all instruments will comply with the requirements of this section shall be tested in accordance with the manufacturer's recommendations.

7.1. *Case leakage.* (Type I only.) A differential pressure of 15 inches of mercury between the inside and outside of the case shall not result in a leakage greater than that which will cause a pressure drop of 0.4 inch of mercury in 10 seconds.

7.2. *Bank indicator damping (room temperature).* When the instrument is suddenly rotated from a position of 12 degrees bank through the vertical to 12 degrees opposite bank, the time for the ball to move from the bank indicator zero position to the rest position at the end of the tube shall be 0.2 second or more.

7.3. *Bank indicator damping (low temperature).* The instrument shall be exposed without operating to a temperature of −65° C., for one hour. Then the instrument shall be tested as specified in Paragraph 7.2 except that the instrument shall operate at a temperature of −30° C. The time for ball motion from the zero position of the bank indicator to the rest position at the end of the tube shall not exceed four seconds.

7.4. *Bank indicator leakage.* The exposure of the instrument to a temperature of 70° C. for two hours shall not cause appreciable change in the size of the air bubble at room temperature.

7.5. *Magnetic effect.* The magnetic effect of the indicator shall be determined in terms of the deflection of a free magnet, approximately 1½ inches long, in a magnetic field with a horizontal intensity of 0.18 (±0.01) gauss when the indicator is held in various positions on an east-west line with its nearest part 5 inches from the center of the magnet. An aircraft compass with the compensating magnets removed therefrom may be used as the free magnet for this test. This test shall be made first with the instrument not operating and then shall be repeated with the instrument in normal operation. The maximum deflection of the magnet shall not exceed 2 degrees for any pointer position.

7.6. *Turn indicator damping, room temperature.* The instrument operating under rated power in normal position, shall be rotated about the vertical axis at a rate which causes full scale pointer deflection. The turn shall be stopped suddenly and the pointer shall return to the zero mark without crossing it in not less than two nor more than four seconds.

7.7. *Turn indicator sensitivity, low temperature.* After exposure to temperature of −30° C. for three hours, without operating, the instrument while still at −30 C. shall meet the requirements of paragraph 6.6 except that pointer deflection shall be as indicated in Table II. The performance shall be checked within ten minutes after power is applied. When turning is stopped the pointer shall return smoothly to zero within 1/32 inch.

7.8. *Turn indicator sensitivity, high temperature.* The conditions of paragraph 6.6 shall also be met at a test temperature of 70 C.

7.9. *Vibration.* With the gyro operating under rated power the instrument shall be vibrated at 500 cycles per minute and describe a circle of 0.003 to 0.005 inch diameter. The frequency shall be slowly increased to 3,000 cycles per minute and then decreased to 500 cycles per minute, to determine whether the natural frequency of the instrument occurs in this range. At no time shall the pointer leave the zero position more zero within 1/16 inch. After three hours exthan 1/32 inch, and the ball shall remain at posure to vibration amplitude as specified in section 3.4.4 and at the natural frequency of between 500 and 3,000 cycles per minute, otherwise at 2,000 cycles per minute, no damage shall be evident and the instrument shall meet the requirements of section 6.

7.10. *Humidity.* The instrument shall be operated under the extreme conditions specified in section 3.4.2 for a period of 10 hours after which it shall meet the requirements of section 6.

TURN INDICATOR SENSITIVITY

TABLE I

Reference: Paragraph 6.6:

Rate of turning (degree per minute):	*Deflection of pointer tip (inches)*
0	0±.015
36	1/16±1/64
180	5/16±1/64
360	1/2±1/16
1,080	1±1/8

TABLE II

Reference: Paragraph 7.7:

Rate of turning:	*Deflection of pointer tip (inches)*
180°	5/16±1/16
360°	1/2±1/8

(2) *Application.* (i) Turn-and-bank indicators complying with the specifications appearing in this Technical Standard Order are hereby approved for all aircraft. Turn-and-bank indicators already approved may continue to be installed in aircraft,

(*a*) For which an application for original type certificate is made prior to the effective date of this order,

(*b*) The prototype of which is flown within 1 year after the effective date of this order, and

(*c*) The prototype of which is not flown within 1 year after the effective date of this order if due to causes beyond the applicant's control.

(ii) If a major change is made in the installation within 9 months after the effective date of this order involving a change in type or model of turn-and-bank indicator, previously approved types of turn-and-bank indicators may be installed. However, in any such change made after the 9-month period, new types of turn-and-bank indicators installed in aircraft used in instrument flight shall meet the specifications contained in this section.

(c) *Specific instructions*—(1) *Marking.* In addition to the identification information required in the referenced

specification, each turn-and-bank indicator shall be permanently marked with the Technical Standard Order designation "FAA–TSO–C3" to identify the turn-and-bank indicator as meeting the requirements of this order in accordance with the manufacturer's statement of conformance outlined below. The Administrator accepts this identification as evidence that the established minimum safety requirements for turn-and-bank indicators have been met.

(2) *Data requirements.* None.

(3) *Effective date.* After July 1, 1948 specifications contained in this Technical Standard Order will constitute the basis for approval of turn-and-bank indicators for use in certificated aircraft used in instrument flight.

(4) *Deviations.* Requests for deviation from, or waiver of, the requirements of this order, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, a written statement of conformance signed by a responsible official of his company, setting forth that the turn-and-bank indicator to be produced by him meets the minimum safety requirements established in this order. Immediately thereafter distribution of the turn-and-bank indicator conforming with the terms of this order may be started and continued.

(ii) The prescribed identification on the turn-and-bank indicator does not relieve the aircraft manufacturer or owner of responsibility for the proper application of the turn-and-bank indicator in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this order are brought to the attention of the Administrator and investigation indicates that such complaints are justified, the Administrator takes appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order may be obtained from the Library Services Division HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.114 Bank and pitch instruments (indicating gyro-stabilized type) (gyroscopic horizon, attitude gyro)—TSO–C4c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for bank and pitch instruments (indicating gyro-stabilized type) (gyroscopic horizon, attitude gyro) which specifically are required to be approved for use on civil aircraft of the United States. New models of bank and pitch instruments (indicating gyro-stabilized type) (gyroscopic horizon, attitude gyro) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS–396B, "Bank and Pitch Instruments (Indicating Stabilized Type) (Gyroscopic Horizon, Attitude Gyro)," dated July 15, 1958[1] with the exceptions listed in subparagraph (2) of this paragraph. Bank and pitch instruments (indicating gyro-stabilized type) (gyroscopic horizon, attitude gyro) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.3.5.

(ii) Substitute the following for section 7: "Performance tests: The following tests, in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(b) *Marking.* In lieu of the weight specified in paragraph (c) of § 37.7, the rating if applicable, i.e., electrical, vacuum, etc., shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.115 Direction instrument, non-magnetic, gyro-stabilized type (directional gyro)—TSO–C5c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for direction instruments, non-magnetic, gyro-stabilized type (directional gyro) which specifically are required to be approved for use on civil aircraft of the United States. New models of direction instruments, non-magnetic, gyro-stabilized type (directional gyro) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS–397A, "Direction Instrument, Non-Magnetic, Stabilized Type (Directional Gyro)," dated July 15, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Direction instruments, non-magnetic gyro-stabilized type (directional gyro) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.3.3.

(ii) Substitute the following for section 7: "Performance tests: The following tests, in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

[1] Copies may be obtained from the Society of Automotive Engineers, Inc., 485 Lexington Avenue, New York 17, New York.

(b) *Marking.* In lieu of the weight specified in paragraph (c) of § 37.7, the following shall be shown:

(1) Instrument type (I or II).

(2) Rating if applicable, i.e., electrical, vacuum, etc.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.116 Direction instrument, magnetic (gyro-stabilized type)—TSO–C6c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for direction instruments, magnetic (gyro-stabilized type) which specifically are required to be approved for use on civil aircraft of the United States. New models of direction instruments, magnetic (gyro-stabilized type) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS–399A, "Direction Instrument, Magnetic (Stabilized Type)," dated July 15, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Direction instruments, magnetic (gyro-stabilized type) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.3.3.

(ii) Substitute the following for section 7: "Performance tests: The following tests in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(b) *Marking.* In lieu of the weight specified in paragraph (c) of § 37.7, the rating if applicable, i.e., electrical, vacuum, etc., shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.117 Direction instrument, magnetic, non-stabilized type (magnetic compass)—TSO–C7c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for direction instruments, magnetic, non-stabilized type (magnetic compass) which specifically are required to be approved for use on civil aircraft of the United States. New models of direction instruments, magnetic, non-stabilized type (magnetic compass) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth

in SAE Aeronautical Standard AS–398A, "Direction Instrument, Magnetic, Non-Stabilized Type (Magnetic Compass)," dated July 15, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Direction instruments, magnetic, non-stabilized type (magnetic compass) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.3.3.

(ii) Substitute the following for section 7.: "Performance tests: The following tests in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(b) *Marking.* In lieu of the weight specified in paragrah (c) of § 37.7, the following shall be shown:

(1) Instrument type (I or II).

(2) Rating if applicable, i.e., electrical, vacuum, etc.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.118 Rate of climb indicator, pressure actuated (vertical speed indicator—TSO–C8b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for rate of climb indicators, pressure actuated (vertical speed indicator) which specifically are required to be approved for use on civil aircraft of the United States. New models of rate of climb indicators, pressure actuated (vertical speed indicator) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS–394A, "Rate of Climb Indicator, Pressure Actuated (Vertical Speed Indicator)," dated July 15, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Rate of climb indicators, pressure actuated (vertical speed indicator) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.2.1.

(ii) Substitute the following for section 7.: "Performance tests: The following tests in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(b) *Marking.* In lieu of the weight specified in paragraph (c) of § 37.7, the following shall be shown:

(1) Instrument type (I, II, III or IV).

(2) Range (feet per minute climb and descent).

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.119 Automatic pilots—TSO–C9c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for automatic pilots to maintain flight and/or to provide maneuvering about the three axes through servo control which specifically are required to be approved for use in civil aircraft of the United States. New models of autopilots manufactured for such use on or after September 15, 1960, shall meet the standards set forth in SAE Aeronautical Standard AS–402A, "Automatic Pilots," dated February 1, 1959,[1] with the exceptions listed in subparagraph (2) of this paragraph and the additions listed in subparagraph (3) of this paragraph. Automatic pilots approved prior to September 15, 1960, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following section is not required: 3.1, 3.1.1, 3.1.2, 3.2.

(ii) Substitute the following for section 7.: "Performance tests: The following tests, in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(3) *Additions.* In addition to the means of indication specified in section 4.3 of AS–402A, the following shall be included:

(i) *Power malfunction indication.* Means shall be provided to indicate readily to the pilot in a positive manner when each phase of the primary power (voltage and/or current) to the automatic pilot is not adequate for safe operation.

(ii) *Airborne navigation reference indication.* A visual means shall be provided to indicate readily to the pilot in a positive manner when the automatic pilot is not engaged to the airborne navigation reference.

(b) *Marking.* In addition to the markings required in § 37.7, range and/or rating if definable shall be shown on each component of the system.

(c) *Data requirements.* With the statement of conformance, one copy each of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(1) Manufacturer's operating instructions

(2) Manufacturer's typical installation instructions

(3) Exploded views for each major component of the system

(4) Schematic diagrams for each major component and the system

(5) The manufacturer's compliance test report.

§ 37.120 Aircraft, altimeter, pressure, actuated, sensitive type—TSO–C10b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft altimeters which specifically are required to be approved for use on civil aircraft of the United States. New models of altimeters manufactured for such use on or after September 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS 392C,[1] "Altimeter, Pressure Actuated Sensitive Type," revision date February 1, 1959,[2] with the exceptions listed in subparagraph (2) of this paragraph. Altimeters approved under prior issuances of this section may continue to be manufactured under the earlier provisions.

(2) *Exceptions.* (i) The following specifically numbered paragraphs in AS 392C do not concern minimum performance and therefore are not essential to compliance with this section: 3.1, 3.1.1, 3.1.2, 3.2, 3.2(a) (b) (c) (d) (e) (f).

(ii) In lieu of section 7. in AS 392C, it is a requirement that the altimeters covered by this section be capable of successfully passing the tests in paragraphs 7.1 through 7.5 and an External Case Pressure Test which is as follows:

External Case Pressure Test. The static pressure source of the instrument shall be sealed when an ambient temperature of 25°C and an ambient pressure of 29.92 inches (absolute) of mercury have been achieved. The ambient pressure shall then be increased at a rate of 20 inches of mercury in two seconds to 50 inches (absolute) of mercury and held at that pressure for three minutes. There shall be no adverse effect on the instrument or its accuracy.

(iii) The "Reference Section" under Table II of AS 392C is not applicable.

(b) *Marking.* In lieu of the weight specified in § 37.7(c) the range shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(1) Manufacturer's operating instructions.

(2) Complete set of instrument's drawings of major components and a test report.

(3) Installation procedures with applicable schematic drawings.

§ 37.121 Fire detectors (thermal sensing and ionization sensing types)—TSO C11d.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby es-

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, N.Y.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Ave., New York 17, New York.

[2] In addition to the performance standards herein, altimeters when installed in aircraft must meet installation requirements as well as functional and reliability flight tests of the pertinent airworthiness sections of the Federal Aviation Regulations.

tablished for fire detectors of the subject types which are required to be approved for use on piston and/or turbine engine-powered civil aircraft of the United States. New models of these types of fire detectors manufactured for use on civil aircraft of the United States on or after the effective date of this section, shall meet the standards specified in Federal Aviation Agency Standards "Fire Detectors (Thermal Sensing and Ionization Sensing Types)," dated August 1, 1961. Fire detectors approved prior to the effective date of this section, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of information required in § 37.7(c), the alarm temperature shall be shown. Compliance of the detector with the piston or turbine engine requirements, or both, shall be designated by –P, –T, or –PT, respectively, as a suffix following the TSO designation, as TSO–C11d–P.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his equipment. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following, shall be furnished with the statement of conformance certifying that the instrument conforms to this section, to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to the installation. This data shall include the following:

(*a*) Starting ambient temperature used in determining the response time (see § 7.1.1);

(*b*) Maximum allowable normal ambient temperature at the point of sensor location;

(*c*) Maximum allowable rate of temperature rise at point of sensor location as a result of normal operation;

(*d*) Operating voltage;

(*e*) Mounting or support method; and

(*f*) Maximum or minimum number of units or detector length which can be used in one circuit or one fire zone without adversely affecting sensitivity or causing false indications due to temperature associated with normal operation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Fire detectors shall be produced under a quality control system, established by the manufacturer, which will assure that each detector is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

§ 37.122 Life rafts (twin tube)—TSO–C12c.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for life rafts (twin tube) which specifically are required to be approved for use on civil aircraft of the United States. New models of life rafts manufactured on or after October 15, 1959, shall meet the standards set forth in the ATA Specification No. 800, "Airline Life Rafts," dated May 1, 1958,[1] with the additional requirements shown in subparagraph (2) of this paragraph, and the exceptions listed in subparagraph (3) of this paragraph. Life raft models approved prior to the effective date of this section may continue to be used under the provisions of their original approval until they are no longer seaworthy.

(2) *Additional requirements.* The degree of inflation shall be such that the raft will be "rounded-out" (i.e., attain its design shape and approximate dimensions) to be able to receive the first occupant within one minute after the start of inflation. Thereafter, inflation during boarding by the remainder of occupants shall be sufficient to ensure a serviceable and rigid raft.

(3) *Exceptions.* For the purpose of this section, conformance is not required with the provision of section 4.2.8 of ATA Specification No. 800 that the length of the installed gas release cables be identical and not exceed 30 inches.

(b) *Marking.* In lieu of the marking requirements specified by § 37.7, the marking instructions contained in ATA Specification No. 800 shall be acceptable and, in addition, each life raft shall be permanently marked with the Technical Standard Order designation, FAA–TSO–C12c, to identify the life raft as meeting the requirements of this section.

(c) *Data requirements.* (1) With the statement of conformance, one copy each of the manufacturer's operation and inflation instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(2) The raft manufacturer must also provide the purchaser with applicable limitations pertaining to installation of rafts on aircraft. These limitations shall include the minimum and maximum stowage area temperatures and any other limitations which will prevent the raft from performing its intended function and complying with the minimum performance standards under all reasonably foreseeable emergency conditions.

§ 37.123 Life preservers—TSO–C13c.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for life preservers which specifically are required to be approved for use on civil aircraft of the United States. New models of life preservers manufactured on or after October 15, 1960, shall meet the standards set forth in ATA Specification No. 801, "Airline Life Jackets," dated July 1, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Life preservers approved prior to October 15, 1960, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Compliance with section 4.1.1. of ATA Specification No. 801 is optional. Life preservers may be non-reversible provided the design of the preservers is such so as to preclude the probability of improper donning.

(ii) In addition to the placarding instructions contained in section 4.2.2 of ATA Specification No. 801, the preserver shall also be marked with instructions which will describe the proper donning procedure.

(b) *Marking.* Each life preserver shall be marked in accordance with § 37.7 except that the weight specified in § 37.7(c) may be omitted, and the following additional information shall be shown:

(1) Date of manufacture of fabric (month and year);

(2) "Adult" or "child", as the case may be.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operation and inflation instructions shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Quality control.* Each life preserver shall be produced under a quality control system, established by the manufacturer, which will assure that each life preserver is in conformity with the requirements of this standard and is in condition for use. This system shall be described in the records required by section 4.3.1 of ATA Specification No. 801. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this standard.

§ 37.124 Aircraft fabric, intermediate grade; external covering material—TSO–C14a.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for aircraft fabric, intermediate grade, for use as an external covering on civil aircraft of the United States with wing loadings of less than 9 p.s.f. and never exceed speeds of less than 160 m.p.h. Fabric manufactured on or after July 31, 1959, shall meet the requirements set forth in section 3 of SAE Aeronautical Material Specification 3804A, "Cloth, Airplane, Cotton, Mercerized; 65 lb Breaking Strength," revised May 1, 1954.[1] Fabric approved prior to July 31,

[1] Copies may be obtained from the Air Transport Association, 1000 Connecticut Avenue NW., Washington 6, D.C.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

1959, may continue to be manufactured under the provisions of its original approval.

(b) *Marking.* The weight required in § 37.7 need not be included. The TSO number shall be marked continuously along the selvage edge of the fabric.

§ 37.125 Aircraft fabric, grade A; external covering material—TSO–C15c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft fabric, grade A, for use as an external covering on civil aircraft of the United States. Fabric manufactured on or after September 23, 1959, shall meet the requirements set forth in section 3 of SAE Aeronautical Material Specification 3806A, "Cloth, Airplane, Cotton, Mercerized; 80 lb Breaking Strength," revised June 15, 1952, with the exception listed in subparagraph (2) of this paragraph. Fabric approved prior to September 23, 1959, may continue to be manufactured under the provisions of its original approval.

(2) *Exception.* The elongation limits specified in AMS 3806A 3.2.4. are amended as follows for the purpose of this section.

Nominal width (inches):	*Maximum elongation (percent)*
36	13
42	13
60	14
69	15
90	16

(b) *Marking.* The weight required in § 37.7 need not be included. The TSO number shall be marked continuously along the selvage edge of the fabric.

§ 37.126 Technical Standard Order C16: "Air-Speed Tubes (Electrically Heated)".

(a) *Introduction.* (1) This Technical Standard Order is intended to serve as a criterion by which the product manufacturer can obtain approval of his electrically heated air-speed tube.

(2) In the establishment of this Technical Standard Order, consideration has been given to existing Government and industry standards for air-speed tubes for the purpose of adopting the performance requirements of one of the recognized aeronautical standards as the minimum safety requirements for air-speed tubes which are intended for use in civil aircraft. The specification of the Society of Automotive Engineers for electrically heated air-speed tubes contains such requirements.

(b) *Directive*—(1) *Provision.* The performance requirement for air-speed tubes as set forth in sections 5 and 6 of SAE Specification AS–393, Air-Speed Tubes, Electrically Heated, dated December 1, 1947,[1] stated below, are hereby established as minimum safety requirements for electrically heated air-speed tubes which are intended for use in civil aircraft.

1. *Purpose.* To specify minimum requirements for Electrically Heated Air-Speed Tubes for use on aircraft the operation of which may subject the instrument to environmental conditions specified in section 3.4.

2. *Scope.* This specification covers the following basic types:

Type I. Pitot Pressure, Straight and L-shaped, 12 and 24 volt nominal, 2 wire circuit.

Type II. Pitot and Static Pressures, Straight and L-shaped 12 and 24 volt nominal, 2 wire circuit.

3. *General requirements.*

3.1 *Materials and workmanship.*

3.1.1 *Materials.* Materials shall be of a quality which experience and/or tests have demonstrated to be suitable and dependable for the purpose intended.

3.1.2 *Workmanship.* Workmanship shall be consistent with high grade instrument manufacturing practice.

3.2 *Radio interference.* The instrument shall not be the source of objectionable interference under operating conditions at any frequencies used on aircraft, either by radiation or feedback, in radio sets installed in the same aircraft as the instrument.

3.3 *Identification.* The following information shall be legibly and permanently marked on the units or attached thereto:

a. Name of instrument.
b. SAE Spec. AS 393.
c. Rating (Nominal Voltage).
d. Manufacturer's Part No.
e. Manufacturer's Serial No. or date of manufacture.
f. Manufacturer's name and/or trademark.

3.4 *Environmental conditions.* The following conditions have been established as design criteria only. Tests shall be conducted as specified in sections 5, 6, 7.

3.4.1 *Temperature.* When the instruments are mounted in accordance with manufacturer's instructions, they shall function over the range of ambient temperatures of −65° C to +70° C and shall not be adversely affected by exposure to temperatures of −65° C to +70° C.

3.4.2 *Vibration.* When the instruments are mounted in accordance with the manufacturer's instructions, they shall function and shall not be adversely affected when subjected to the following vibration:

Frequency: 500–3,000 cycles per minute.
Amplitude: 0.250 inch.
Maximum Acceleration: 32.5 g.

NOTE: It is understood that the unit shall withstand vibration at higher frequencies but the acceleration value need not exceed that shown above.

When specified by the purchaser for use in rotary wing aircraft, the frequency range shall be 150–3,000 cycles per minute.

4. *Detail requirements.*

4.1 *Drainage.* The tube shall be designed to provide maximum drainage of water, resulting from rain or melting ice, consistent with maintaining the calibration specified in sections 6.3, 6.4 and 6.5.

4.2 *Marking.* Pitot pressure and static pressure lines shall be identified by the letters P and S, respectively, stamped, etched, engraved or otherwise permanently marked on the lines or fittings. The top of the tube shall be identified.

5. *Individual performance tests.* All instruments shall be subjected to whatever tests the manufacturer deems necessary to demonstrate specific compliance with the specification including the following requirements, where applicable.

5.1 *Leakage.* With a pressure of 10 inches of mercury applied separately to the pitot pressure and/or the static pressure lines, there shall be no evidence of leakage when the corresponding pitot or static pressure openings and drain holes are sealed.

5.2 *Dielectric.* The insulation shall withstand without evidence of damage the application of a sinusoidal voltage at a commercial frequency between the terminals of the heater circuit and the shell (case) for a period of 5 seconds. The R. M. S. value of the sinusoidal voltage applied shall be 500 volts.

5.3 *Heater operation.* When mounted in its normal position, the tube shall be tested for heater operation by applying the minimum rated voltage (12 or 24 volts) for a period of 2 minutes. The power consumption at that time shall be within ±30 percent of the power consumption at rated voltage.

6. *Qualification tests.* As many instruments as deemed necessary to demonstrate that all instruments will comply with the requirements of this section shall be tested in accordance with the manufacturer's recommendations, where applicable.

6.1 *Vibration.* The tubes shall be subjected to vibration for three hour periods in each of the three perpendicular reference planes such that a point on the tip of the tubes will oscillate ¼ inch. The test shall be conducted such that each period of three hours shall consist of one hour at 1,000, 2,000 and 3,000 cycles per minute. Rated voltage shall be applied to the terminals continuously during this test. Ambient temperature shall be 20° to 30° C. There shall be no failure of any kind.

6.2 *Endurance.* The tubes shall be made to operate continuously in still air at 15 or 30 volts (as applicable) for, at least, five hours. Ambient temperature shall be 70° C. There shall be no damage of any kind except discoloration, which will not affect corrosion resistance.

6.3 *Calibration at zero angle of attack.* The tube shall be mounted in a wind tunnel in line with the airflow and tested separately for pitot pressure and for static pressure at the values for air speeds specified in table I. The test shall be made by comparison with the results obtained under similar conditions with a calibrated tube. The error of the tube expressed in terms of indicated air speed shall not exceed 1 percent of the indication or 1 MPH, whichever is greater, and the static pressure shall be within the tolerances specified in table I.

TABLE I—PERMISSIBLE ERRORS IN STATIC PRESSURE

Indicated air speed m. p. h.:	*Tolerance inches of water*
50	0.10
75	.15
100	.20
125	.25
150	.30
175	.35
200	.40
225	.45
250	.50

6.4 *Calibration at various angles of attack.* The tube shall be tested as specified for "Error at Zero Angle of Attack" at approximately 125 MPH except that the angle of attack shall be varied by 2-degree intervals from +16 to −10 degrees inclusive. The indicated error expressed in terms of indicated air speed shall not differ from the indicated error at zero angle of attack by more than 3 miles per hour, and the error in static pressure shall not differ from the static pressure at zero angle of attack by more than 0.20 inch of water.

6.5 *Calibration at various angles of yaw.* The tube shall be tested as specified in section 6.3 at approximately 125 MPH except that the angle of yaw shall be varied between plus and minus five degrees. The indicated error expressed in terms of indicated air speed shall not differ from the error at zero angle of yaw by more than 3 miles per hour and the error in static pressure shall not differ from the static pressure at zero angle of yaw by more than 0.20 inch of water.

6.6 *Magnetic effect.* The magnetic effect of the tube shall be determined in terms of the deflection of a free magnet approximately 1½ inches long in a magnetic field with a

horizontal intensity of 0.18±0.01 gauss, when the tube is held in various positions and with rated voltage applied on an east-west line with its nearest part five inches from the center of the magnet. (An aircraft Compass with the compensating magnets removed therefrom may be used as the free magnet for this test.) The maximum deflection of the magnet shall not exceed 5 degrees for any pointer deflection.

6.7 *De-icing.* The tube shall be tested in an icing wind tunnel at a temperature of −10° to −20° C. and at an indicated tunnel air speed of 200 miles per hour. When the tube is coated with ¼ inch of ice at the nose, the minimum rated voltage shall be applied to the terminals. The time required to clear the ice cap shall not be more than 2 minutes after the potential is applied. No re-icing shall occur.

6.8 *Cold resistance.* The tube shall be subjected to a temperature of −65° C. or colder for a minimum period of 48 hours. There shall be no evidence of damage. After this test, the tube shall be capable of successfully passing all tests described heretofore.

(2) *Application.* (i) Air-speed tubes complying with the specifications appearing in this Technical Standard Order are hereby approved for all aircraft. Air-speed tubes already approved may continue to be installed in aircraft:

(*a*) For which an application for original type certificate is made prior to the effective date of this order,

(*b*) The prototype of which is flown within 1 year after the effective date of this order, and

(*c*) The prototype of which is not flown within 1 year after the effective date of this order if due to causes beyond the applicant's control.

(ii) If a major change is made in the installation within 9 months after the effective date of this order involving a change in type or model of air-speed tube, previously approved types of air-speed tubes may be installed. However, in any such change made after the 9-month period, new types of air-speed tubes installed in aircraft used in instrument flight shall meet the specifications contained in this section.

(c) *Specific instructions*—(1) *Marking.* In addition to the identification information required in the referenced specification, each air-speed tube shall be permanently marked with the Technical Standard Order designation "FAA–TSO–C16" to identify the air-speed tube as meeting the requirements of this order in accordance with the manufacturer's statement of conformance outlined below. This identification will be accepted by the Administrator as evidence that the established minimum safety requirements for air-speed tubes have been met.

(2) *Data requirements.* None.

(3) *Effective date.* After September 1, 1948, specifications contained in this Technical Standard Order will constitute the basis for approval of air-speed tubes for use in certificated aircraft used in instrument flight.

(4) *Deviations.* Requests for deviation from, or waiver of, the requirements of this order, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, a written statement of conformance signed by a responsible official of his company, setting forth that the air-speed tube to be produced by him meets the minimum safety requirements established in this order. Immediately thereafter distribution of the air-speed tube conforming with the terms of this order may be started and continued.

(ii) The prescribed identification on the air-speed tubes does not relieve the aircraft manufacturer or owner of responsibility for the proper application of the air-speed tube in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this order are brought to the attention of the Administrator and investigation indicates that such compliants are justified, the Administrator takes appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order may be obtained from the Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.127 Technical Standard Order C17: "Fire-Resistant Aircraft Material".

(a) *Introduction.* (1) This Technical Standard Order is intended to serve as a criterion by which the product manufacturer can obtain approval of his fire-resistant aircraft material.

(2) In the establishment of this Technical Standard Order, consideration has been given to existing Government and industry standards for fire-resistant aircraft material for the purpose of adopting the performance requirements of one of the recognized aeronautical standards as the minimum safety requirements for fire-resistant materials which are intended for use in civil aircraft. The specification of the Society of Automotive Engineers for fire-resistant aircraft materials contains such requirements.

(b) *Directive*—(1) Provision. The performance requirements for fire-resistant aircraft material as set forth in section 3 of SAE Specification AMS–3851, Fire-Resistant Properties for Aircraft Materials, dated May 1, 1948,[1] stated below, are hereby established as minimum safety requirements for fire-resistant material which is intended for use in civil aircraft.

1. *Acknowledgment.* A vendor shall mention his specification number in all quotations and when acknowledging purchase orders.

2. *Application.* Primarily intended to cover materials which may be used without further treatment in areas in air carrier aircraft where a fire-resistant material is required.

3. *Technical requirements.* The material as supplied shall be capable of meeting the following test:

If the material is rigid an 8 x 8 in. specimen shall be used. If flexible, the material shall be placed in a frame, exposing an area 8 x 8 in. Where backing material is used, the specimen shall be provided with the same backing. The test specimen shall be supported at an angle of 45 degrees. The Bunsen or Tirrill burner shall rest upon a horizontal surface. The burner shall be adjusted for no air intake, giving a yellow tipped, 1½ in. flame. Suitable precautions shall be taken to avoid drafts. The period of application shall be 30 sec with ⅓ of the flame in contact with the material at the approximate center of the specimen. Upon removal of the flame source from the specimen, the flame shall extinguish itself within 15 sec and no smoldering or glowing shall be visible 10 sec thereafter. No complete penetration of the material shall result.

4. *Reports.* Unless otherwise specified, the vendor shall furnish, with the original sample submitted for approval, three copies of a notarized report of the results of the test noted above showing duration of flaming, time of smoldering, char width, and penetration. After approval, unless otherwise specified, vendor shall furnish with each shipment three copies of a notarized report of the results of the above test made on each grade or type of each lot or shipment of material contained in the order. This report shall include the purchase order number, this specification number, vendor's material number, and quantity.

5. *Packing and identification.*

5.1 Packaging shall be accomplished in such a manner as to insure that the materials being shipped will not be torn or damaged and will be protected against exposure and undue weathering and harmful materials of any kind.

5.2 Each package shall be permanently and legibly marked, and the material tagged or stamped to give the following information:

Material description _____
AMS 3851
Meets fire resistance requirement AMS 3851
Vendor's identification_____
Purchase order number_____

6. *Approval.* A vendor shall not supply material until samples have been approved by the purchaser. After approval changes in composition, production manufacturing procedures and processes shall not be made without prior written approval by purchaser. Results of tests on incoming shipments shall be essentially equal to those obtained on approved samples.

7. *Rejections.* Material not conforming to this specification or to authorized modifications will be subject to rejection. Unless otherwise stipulated, rejected material will be returned to vendor at vendor's expense, unless purchaser receives, within three weeks of notification of rejection, other instructions for disposition.

(2) *Application.* Fire-resistant materials complying with the specifications appearing in this Technical Standard Order are hereby approved for all aircraft.

(c) *Specific instructions*—(1) *Marking.* In addition to the identification information required in the referenced specification, the material shall be permanently marked with the Technical Standard Order designation "FAA–TSO–C17" to identify the materials as meeting the requirements of this order in accordance with the manufacturer's statement of conformance outlined below. This identification will be accepted by the Administrator as evidence that the established minimum safety require-

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

ments for fire-resistant materials have been met.

(2) *Data requirements.* None.

(3) *Effective date.* See paragraph (b) (2) of this section.

(4) *Deviations.* Requests for deviation from or waiver of, the requirements of this order, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, a written statement of conformance signed by a responsible official of his company, setting forth that the fire-resistant material to be produced by him meets the minimum safety requirements established in this order. Immediately thereafter distribution of the material conforming with the terms of this order may be started and continued.

(ii) The prescribed identification on the fire-resistant material does not relieve the aircraft manufacturer or owner of responsibility for the proper application of the fire-resistant material in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this order are brought to the attention of the Administrator, and investigation indicates that such complaints are justified, the Administrator takes appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order may be obtained from the Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.128 Position light flashers (air-carrier aircraft)—TSO–C18c.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for position light flashers which will be used on civil aircraft of the United States engaged in air-carrier operations. New models of position light flashers manufactured for installation in civil air-carrier aircraft on or after July 15, 1957, shall meet the standards set forth in SAE Specification AS211, "Flasher, Position Light," dated November 1, 1948,[1] with the exceptions listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) For the purpose of this section, the following shall apply in lieu of section 4.2 of AS211:

The flashing cycle and its frequency shall conform to either (*a*) or (*b*) of this subparagraph. A maximum deviation of 5° from the specified periods is permissible.

(*a*) Red and green forward position lights, top and bottom fuselage lights and white rear position light "ON"	130°
Dark	50°
Red and green forward position lights, top and bottom fuselage lights and red rear position light "ON"	130°
Dark	50°

This cycle shall be repeated at not less than 32.5 nor more than 42.5 times per minute.

(*b*) Red and green forward position lights and white rear position light "ON"	130°
Dark	50°
Top and bottom fuselage lights and red rear position light "ON"	130°
Dark	50°

This cycle shall be repeated at not less than 65 nor more than 85 times per minute.

(ii) The following shall apply in lieu of the last sentence of section 4.3 of AS211: The flasher contacts shall be adequate for the intended purpose.

(b) *Marking.* In lieu of the marking requirement of § 37.7(c), the following shall be shown:

(1) Voltage,

(2) Normal motor current—amps, and

(3) Flasher contact capacity—amps.

(c) *Data requirements.* Six copies each of installation, operating, and maintenance recommendations or instructions shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.129 Portable water-solution type fire extinguishers—TSO–C19b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for portable water-solution type fire extinguishers which are to be used in civil aircraft of the United States. New models of portable water-solution type fire extinguishers manufactured for installation in civil aircraft on or after the effective date of this order shall meet the standards of sections 5 and 6 and subsections 4.1.1, 4.1.4, 4.1.5, 4.2.3, 4.3.1 and 4.3.2 of SAE Specification AS–245A, dated December 15, 1956, with the exceptions listed in subparagraph (2) of this paragraph. Portable water-solution type fire extinguishers approved by the Civil Aeronautics Administration prior to the effective date of this order may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* For the purpose of this order, the dischargeable capacity specified in 4.1.1 of AS–245A may be at least one quart.

(b) *Marking.* In addition to the information required in § 37.7, the following also must be legibly and permanently marked on the extinguisher: 1- capacity, 2- test pressure of container and 3- operating and maintenance instructions.

§ 37.130 Technical Standard Order C20: "Combustion Heaters".

(a) *Introduction.* This Technical Standard Order is intended to serve as a criterion by which the product manufacturer may obtain approval of his combustion heaters.

(b) *Directive*—(1) *Provision.* The requirements for combustion heaters, as set forth in SAE Aeronautical Standard AS143B; Heaters, Airplane, Internal Combustion Heat Exchanger Type, dated February 1, 1949,[1] stated below, are hereby established as minimum safety standards for combustion heaters intended for use in civil aircraft:

1. *Purpose.* To specify standards covering minimum safety and performance requirements for internal combustion heaters and certain auxiliary devices which are considered necessary to the safety and performance of the heaters as used in aircraft. These standards are to be considered currently applicable and necessarily subject to revision from time to time due to rapid development of the aeronautical industry. The following standards are based on practical engineering requirements for such internal combustion heat exchanger type heaters as are now used on airplanes and for such as may be developed to meet later requirements.

2. *Scope.* These standards are written to cover internal combustion heat exchanger type heaters used in the following applications:

2.1 Cabin heating. (All occupied regions and windshield heating.)

2.2 Wing and empennage heating.

2.3 Engine and accessory heating. (When heater is installed as part of the aircraft.)

3. *Definition.* An internal combustion heat exchanger type heater as used for airplane heating is one that utilizes through a heat exchanger the heat produced by combustion of a fuel within the heater for the purpose of heating the air being supplied to the airplane.

4. *General requirements.*

4.1 *Heater components.* An internal combustion type heater shall include all of the following:

4.1.1 Combustion chamber and heat exchanger assembly.

4.1.2 Casing or shroud for combustion chamber and heat exchanger assembly.

4.1.3 Igniter.

4.1.4 Burner.

4.1.5 Ventilating air inlet.

4.1.6 Ventilating air outlet.

4.1.7 Combustion air inlet.

4.1.8 Exhaust outlet.

4.1.9 Fuel inlet.

4.2 *Additional devices.* In addition to the heater, the following additional devices are considered necessary to the safety and performance of the heater and will be covered in that respect by these standards. These devices may be furnished separately or as part of the heater. These standards do not cover all tests necessary on these devices, but only those required in their relationship to the heater.

4.2.1 Fuel system.

4.2.1.1 Fuel nozzle, restrictor, orifice, or equivalent.

4.2.1.2 Fuel shutoff valve.

4.2.1.3 Fuel filter.

4.2.2 Safety controls.

4.2.2.1 A device to prevent the heater from becoming overheated.

4.2.2.2 A device to prevent fuel flow to the heater when combustion air is insufficient for safe operation.

4.2.3 Ignition system. (Required for spark ignition only.)

4.2.3.1 Device to provide high voltage power.

4.2.3.2 High voltage ignition lead assembly or equivalent electrical linkage between high voltage device and spark plug.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Ave., New York 17, New York.

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4.3 *Materials and workmanship.*

4.3.1 The heater and auxiliary equipment shall be constructed throughout of materials which are considered acceptable for the particular use intended and shall be made and furnished with a degree, uniformity, and grade of workmanship generally accepted in the aircraft industry.

4.3.2 The heater casing or shroud shall be constructed of fireproof material.

4.4 *Design features.*

4.4.1 The design shall be such as to preclude the possibility of discharging harmful concentrations of carbon monoxide into the ventilating air stream. See test, paragraph 6.5.4.1.

4.4.2 Where specified, the design shall be such as to preclude excessive loss of pressurized fuselage air. See test, paragraphs 6.5.4.2 and 6.5.4.3.

4.4.3 The design shall include protection against excessive radio interference. See test, section 6.4.

4.4.4 The design shall be such as to preclude harmful effects on construction or performance due to vibration. See test, section 6.3.

4.4.5 The design shall be such that the life of the heater and accompanying devices shall be comparable to other similar airframe components and accessories. See test, section 6.5.

4.4.6 Unless otherwise specified, the design shall be such that the heater and accompanying devices shall operate satisfactorily within normal ranges of power, fuel, and air supplies available in aircraft.

4.5 *Heater identification.* The following minimum information shall be legibly and permanently marked on the heater or on a nameplate attached thereto:

(a) Manufacturer's name and/or trademark.

(b) Manufacturer's part number.

(c) Manufacturer's serial number.

(d) SAE rated output, _____ B. t. u. hr. (See section 5.1.)

(e) Rated fuel pressure, _____ psig.

(f) Electrical characteristics.

(g) SAE Spec. AS–143B. For Use: Unpr. cabin _____, Press. cabin _____. Wing _____. (Stamp "X" in one or more blanks as applicable.)

5. *Detail requirements.*

5.1 *SAE rating conditions.* Heater shall deliver at least SAE rated output at following conditions:

5.1.1 Sea level ambient pressure.

5.1.2 Rated fuel pressure, as specified by manufacturer.

5.1.3 Rated sea level combustion air rate, as specified by manufacturer.

5.1.4 Ventilating air temperature rise of 250° F.

5.1.5 Inlet temperature of fuel and air between 50° F. and 125° F.

5.2 *Air supply.*

5.2.1 When sufficient combustion or ventilating air for safe operation is not available the heater shall be made automatically inoperative. See tests, paragraphs 6.5.7.1 and 6.5.7.2.

5.2.2 The combustion air and ventilating air inlets on the heater shall be separated from each other.

5.3 *Fuel supply.*

5.3.1 The fuel lines and fittings under pressure in the heater shall be enclosed in such manner as to prevent any fuel leakage from entering the ventilating air stream, and the enclosure shall have adequate provision for draining to the combustion chamber or to a fuel drain fitting.

5.3.2 A fuel drain outlet or equivalent safety device shall be provided to prevent accumulation of fuel in the combustion chamber and heat exchanger assembly in case the fuel flows without igniting.

5.3.3 All fuel lines in the heater shall be constructed of steel or other fire resistant material. Where flexibility is required in these lines, flexible fire resistant coupled hose assemblies shall be used to eliminate the possibility of using hose clamp connections. Connections in metal fuel lines shall not employ solder nor other relatively low melting point materials which cannot withstand a 2000° F. flame for five minutes.

5.3.4 All gaskets, synthetic rubber seals, etc. shall be suitable for use with aromatic fuels and shall be satisfactory for use at the temperatures encountered within the overheating limits of the heater.

5.3.5 The fuel system lines, fittings and controls shall be sufficiently isolated from the combustion side of the heater to prevent their being damaged by flame, radiant heat or backfire.

5.4 *Combustion chamber and heat exchanger assembly.*

5.4.1 The combustion chamber and heat exchanger assembly shall be constructed from a corrosion and heat resistant material in accordance with SAE Aeronautical Material Specification AMS 5540, or equivalent.

5.4.2 Means shall be provided to minimize malfunctioning due to lead deposits and to permit disassembly and cleaning of all parts affected by products of combustion.

5.4.3 The accumulation of lead scale or products of combustion deposits shall not cause functional failure before 500 hours of heater operation.

5.4.4 The heater combustion chamber and heat exchanger assembly shall be so designed that it will not rupture under the most severe explosion conditions that can occur with any possible fuel air mixture as demonstrated by test procedure outlined in section 6.1.6.

5.5 *Exhaust.*

5.5.1 The temperature of the exhaust gases at the point of discharge from the heater shall not exceed 1200° F. at rating. (See section 5.1.)

5.6 *Ignition.*

5.6.1 Ignition may be accomplished by:

5.6.1.1 Electrically heated resistance hot wire.

5.6.1.2 Electric high-voltage spark plug.

5.6.2. Ignition may be sustained during operation of the heater or discontinued if satisfactory combustion is assured.

5.6.3 The igniter shall be capable of functioning over a period of 200 hours without service. See test, section 6.5.5.

5.6.4 In event of ignition delay for an indefinite period, either with or without fuel supply, no hazardous condition shall result.

5.6.5 Heaters which are intended for wing-empennage heating shall ignite within 15 seconds under conditions of paragraph 6.1:2.3 except that the temperature shall not be higher than —20° F.

5.7 *Safety controls.* The following automatic safety controls shall be furnished separately or as part of the heater. These controls shall be independent of and in addition to the normal operating controls.

5.7.1 A control to shut off the heater fuel flow in case combustion air supply is insufficient for safe operation.

5.7.2 A control to prevent the heater from becoming overheated under any condition of ventilating air flow.

5.8 *Lines and fittings.*

5.8.1 All pipe and tubing fittings used shall comply with applicable AN standards.

5.8.2 Other fittings not covered above shall conform to accepted aircraft practice.

5.9 *Electrical equipment.*

5.9.1 All electrical equipment, including wiring, instruments, motors, insulation, shielding, relays, etc., shall conform to acceptable aircraft practice.

6. *Test requirements and methods.*

6.1 *Performance tests.* Tests shall be conducted to establish the following:

6.1.1 Ignition characteristic curve, plotting altitude as the ordinate and combustion air pressure differential as the abscissa such that the area under the curve represents the region of reliable starting and burning at —65° F. Include information on temperature of fuel and combustion air supplied to heater. The service ceiling of the heater and its accompanying ignition devices shall be defined as the peak of the ignition characteristic curve. A time record shall be kept on each test start.

6.1.2 Heat output, ventilating air pressure drop, combustion air pressure drop, exhaust temperature, ventilating air temperature rise, fuel rate at—

6.1.2.1 Sea level rating. (See section 5.1.)

6.1.2.2 Sea level rating, except with —65° F. inlet ventilating air, combustion air, and fuel temperatures.

6.1.2.3 20,000 feet pressure altitude with:

(a) Sea level rated weight of ventilating air at —65° F., inlet temperature.

(b) Combustion air at —65° F., inlet temperature, and combustion air pressure differential midway between 20,000 feet altitude ignition limits determined in 6.1.1.

(c) Sea level rated values of voltage and fuel pressure.

(d) Fuel at —65° F., inlet temperature.

NOTE: Temperature measurements for output shall be made in a manner which will provide a representative average temperature of the discharge air. Temperature sensing elements used in test shall be protected against effects of radiation from the heater.

6.1.3 Maximum starting and maximum running amperages required with normal voltage for operation of the heater and accompanying devices at sea level.

6.1.4 Voltage range within which the heater and accompanying devices will operate at sea level and service ceiling.

6.1.5 Collapsing pressure of the combustion chamber and heat exchanger assembly.

6.1.5.1 The heater shall be set up with an adjustable restriction on the combustion air inlet, and a source of vacuum connected to the exhaust outlet. The ventilating air shall discharge freely to atmosphere (sea level). A static pressure tap shall be provided in the exhaust pipe within 12" of the connection to the heater.

6.1.5.2 For a non-pressurized cabin heater or a wing-empennage heater, the heater shall be operated at sea level rating, except that the exhaust outlet pressure is to be maintained at a value which is at least 4 psi below the ventilating air outlet pressure. After operating the heater for at least one hour at these conditions, there must be no permanent distortion of any part of the heater, unless it can be demonstrated that such distortion does not affect the performance or life of the heater.

6.1.5.3 For pressurized cabin heaters, the test shall be the same as 6.1.5.2 except that the exhaust outlet pressure shall be maintained at a value which is at least 10 psi below the ventilating air outlet pressure.

6.1.6 *Combustion chamber burst pressure.* The following design test shall demonstrate compliance with section 5.4.4.

6.1.6.1 With the combustion chamber and heat exchanger assembly at room temperature, introduce a gaseous fuel air mixture in a ratio of from .085 to .095. Purge the combustion chamber and heat exchanger assembly with this mixture to the extent of at least ten times the volume of the combustion chamber and heat exchanger assembly. Ignite the mixture with the heater igniter. Repeat procedure to complete 50 explosions. The heater shall then meet the leakage requirements of section 6.5.4.2.

6.1.7 Radio interference noise levels. See test, section 6.4.

6.1.8 Effect of vibration of heater and accompanying devices. See test, section 6.3.

6.1.9 Minimum life and service requirements of heater and accompanying devices. See test, section 6.5.

6.2 *Test report.* The manufacturer shall furnish a report, on request, covering tests. This report shall include an introduction, a

summary, a description of apparatus, instrumentation, and tests, the results, a discussion, and conclusions.

6.3 *Vibration test.* The heater and auxiliary equipment shall be capable of withstanding and satisfactorily operating when subjected to a steady vibration over a range of frequencies from 600 to 2,700 cycles per minute with a total excursion of 1/16", and from 2,700 to 3,200 cycles per minute with an acceleration not exceeding 6 G's. Unless otherwise specified in detail specifications, the equipment shall be mounted on the vibrating apparatus with the longitudinal axis of the heater in a plane parallel to the vibrating surface of the apparatus and normal to the direction of vibration.

6.3.1 The heater shall be vibrated over a range of from 600 to 2,700 cycles per minute with a total excursion of 1/16". The frequencies at which resonance occurs, if any, shall be observed and noted.

6.3.2 The heater will be vibrated over a range of from 2,700 to 3,200 cycles per minute with an acceleration of not less than 5 G's and not more than 6 G's. The frequencies at which resonance occurs, if any, shall be observed and noted.

6.3.3 If resonance is observed under the test of either 6.3.1 or 6.3.2, a vibration test shall be conducted for fifteen hours at the frequency showing the maximum resonance.

6.3.4 If no resonance is observed under the tests of 6.3.1 or 6.3.2, a vibration test shall be conducted for 15 hours at 2,700 cycles per minute with 1/16" total excursion.

6.3.5 At the conclusion of the vibration test there shall be no evidence of structural failure and the heater and accompanying devices shall operate satisfactorily.

6.4 *Radio interference test.*

6.4.1 The heater shall be set up with a sleeve of bare metal ductwork having the same diameter as the heater casing connected at each end of the casing. The length of each piece of ductwork shall be not less than five diameters and shall be connected to the heater with a clamp of the type normally used in an installation.

6.4.2 In the same manner as 6.4.1, connect ductwork or tubing to the combustion air inlet and to the exhaust outlet with respective dimensions determined by diameters of the combustion air inlet and exhaust outlet fittings.

6.4.3 If the ignition voltage transformer is not part of the heater, mount in external to the heater and connect the high voltage terminal to the spark plug by means of the high voltage ignition lead assembly.

6.4.4 With the ignition system operating, check the complete assembly including heater, high voltage device, and high voltage ignition lead assembly using the recommended procedure of specification JAN–I–225 dated June 14, 1945, and Radio Interference Noise Limit Specification AAF–32466–A dated October 17, 1945.

6.5 *Life tests.* Life tests may be conducted in such manner as to qualify the heater and accompanying devices for cabin heating, wing-empennage anti-icing, or both. For cabin heating only, the duration of the test shall be at least 850 hours "on" time. For wing-empennage anti-icing only, the duration of the test shall be at least 500 hours "on" time. For qualification of the heater and accompanying devices under both cabin heating and wing-empennage classifications, the duration of the test may be 850 hours heater "on" time providing at least 500 hours "on" time is performed at wing-empennage conditions.

6.5.1 *General conditions.* The general conditions applying to both cabin and wing-empennage heater life tests shall be as follows:

6.5.1.1 Tests shall be performed at sea level rated fuel pressure and sea level rated combustion air rate.

6.5.1.2 Inlet air temperature shall not exceed 125° F.

6.5.1.3 Approximately 50% of the life test shall be with "continuous" operation, and the remainder of the test with "rapid cycling" operation.

6.5.1.3.1 During "continuous" operation, the ventilating air rate shall be adjusted as required to give the specified temperature rise under steady conditions. At least once, and not more than twice, during each two hours of operating time, the fuel and ignition system shall be shut off and the heater permitted to cool for at least 10 minutes with continuous ventilating air and combustion air flow. In calculating total "on" time for the heater, the 10-minute cooling periods shall not be included.

6.5.1.3.2 During "rapid cycling" operation, a thermostatic switch in the ventilating air outlet stream shall cycle the fuel on and off and maintain a specified outlet air temperature. The ventilating air rate shall be adjusted so that the average heat output (assuming that the setting of the cycling switch represents the average outlet air temperature) is between 60 and 75% of the rated output. At least once, and not more than twice during each 2 hours of operating time, the fuel and ignition system shall be shut off and the heater permitted to cool for at least 10 minutes with continuous ventilating air and combustion air flow. For cycling operation "on" time is defined as the total elapsed time during which the rapid cycling switch controls the heater operation; it does not include the 10-minute cooling periods.

6.5.2 *Cabin heater life tests.* The cabin heater life tests shall be divided into four periods, as follows:

6.5.2.1 *First period—250 hours.* Continuous operation, with the ventilating air rate adjusted to maintain a temperature rise of at least 200° F. and an outlet air temperature of at least 250° F.

6.5.2.2 *Second period—250 hours.* Rapid cycling operation, with the cycling switch set to control at 250±10° F. outlet air temperature.

6.5.2.3 *Third period—175 hours.* Same conditions as first period.

6.5.2.4 *Fourth period—175 hours.* Same conditions as second period.

6.5.3 *Wing-empennage anti-icing heater life tests.* Wing-empennage anti-icing heater life tests shall be divided into two periods, as follows:

6.5.3.1 *First period—250 hours.* Continuous operation, with the ventilating air rate adjusted to maintain a temperature rise of at least 300° F. and an outlet air temperature of at least 350° F.

6.5.3.2 *Second period—250 hours* Rapid cycling operation, with the cycling switch set to control at 350±10° F. outlet air temperature.

6.5.4 *Performance after tests.* At the end of the life and vibration tests the heater shall meet the following requirements:

6.5.4.1 *Carbon monoxide contamination.* At rating conditions, and with the burner operating, carbon monoxide concentration in the heated ventilating air stream shall not exceed one part in 20,000 or 0.005 of 1%. This test shall be run with the heater exhaust discharging to atmosphere. The ventilating air samples shall be taken from an unrestricted duct fastened to the heater ventilating air outlet. The duct shall be the same diameter as the heater casing and at least 5 diameters in length. Use carbon monoxide detector assembly AAF No. 46B1790 or Navy Stock No. R–83–BUA–9258, or equivalent.

6.5.4.2 *Leakage.* With an air pressure of 8 psig inside the combustion chamber and heat exchanger assembly, leakage shall not exceed 9 lbs/hr. (sea level and 59° F.). There shall be no leaks which could allow liquid fuel to enter the ventilating air stream in event of ignition failure, when the heater is mounted in any normal position, with drains open.

6.5.4.3 For pressurized cabin heaters, with pressurized jacket, air leakage through the ventilating air shroud or casing shall not exceed 10 lbs/hr. at sea level and room temperature when air pressure of 16 psig is applied to the ventilating air passages.

6.5.4.4 When heater is to be used for wing-empennage anti-icing, the output shall be not less than 90% of the original rating after the life test. If the heater is to be used for cabin heating, the manufacturer shall record in the test report the heater output at the end of the life test.

6.5.5 *Igniter.* Whenever it becomes necessary due to ignition failure during the life test, the igniter may be cleaned, adjusted, or replaced. However, the igniter shall not require servicing or replacement more than twice during the life test of a wing-empennage heater or more than four times during the life test of a cabin heater.

6.5.6 *Fuel system.*

6.5.6.1 Whenever necessary due to stoppage or failure, the fuel orifice or nozzle may be cleaned or replaced. Such servicing shall not be required more than once during a wing-empennage heater life test or twice during a cabin heater life test.

6.5.6.2 The fuel shut off valve may be cleaned once during a wing-empennage heater life test and twice during a cabin heater life test. It shall not be cleaned, serviced, or replaced due to failure to close during the life test. At the end of the life test the valve leakage in the closed position with rated fuel pressure shall not exceed two cubic centimeters of fuel in ten minutes.

6.5.6.3 The fuel filter may be cleaned or the filter element replaced but the filter body shall not be replaced during the life test. At the end of the life test there shall be no leakage through the case or body.

6.5.7 *Safety controls.*

6.5.7.1 The device used to prevent the heater from becoming overheated shall not be serviced or replaced during the life test due to failure to shut off the heater. At the beginning of the life test and at the end of each test period (section 6.5.2 or 6.5.3), any cycling or intermediate controls shall be bypassed and the ventilating air rate gradually reduced over a period of 15 minutes to permit operation of this device. Operation shall be within ±25° F. of the value obtained at the beginning of the life test.

6.5.7.2 The device to prevent fuel flow when combustion air is insufficient for safe operation shall be sensitive to heater combustion air pressure differential or to combustion air pressure. The device may be an air actuated electrical switch designed for use with an electrical fuel shut off valve, or an air actuated mechanical valve designed to control the flow of fuel.

6.5.7.2.1 If an air actuated electrical switch is used, it shall be checked as follows at the end of each test period (section 6.5.2 or 6.5.3) with the heater in operation:

6.5.7.2.1.1 Reduce the combustion air differential pressure or combustion air pressure gradually (approximately 30 seconds) from normal rating to a point where the switch closes the electrical fuel shut off valve. The combustion air differential pressure or combustion air pressure at which the fuel shut off valve closes shall not be less than the minimum value required for safe heater operation. At the end of 15 minutes "fuel off" time, the combustion air differential pressure or combustion air pressure, as applicable, shall be gradually increased at the same rate and the switch shall open the electrical fuel shut off valve at or above the rated combustion air pressure differential.

6.5.7.2.2 If an air actuated mechanical fuel valve is used it shall be checked as follows at the end of each test period (sections 6.5.2 or 6.5.3):

6.5.7.2.2.1 With the heater operating and with the fuel shut off valve "open", the combustion air differential pressure shall be reduced gradually (approximately 30 sec-

onds) from normal rating to value required for safe heater operation. Leakage through the air actuated mechanical fuel valve shall then be measured and shall not exceed two cubic centimeters in ten minutes. At the end of 15 minutes "fuel off" time, the combustion air differential pressure shall be gradually increased at the same rate and the valve shall permit rated fuel flow when the rated combustion air pressure differential is reached.

6.5.7.3 *Ignition system.*

6.5.7.3.1 If necessary, the high voltage device may be serviced or parts replaced once during the life test.

6.5.7.3.2 If necessary, the high voltage ignition lead assembly or equivalent may be serviced or replaced once during the life test.

6.5.7.4 Unless otherwise specified, items 6.5.7.1, 6.5.7.2, 6.5.7.2.1, 6.5.7.2.2, 6.5.7.3, and 6.5.7.3.2, if furnished separately, not as part of the heater, need not be tested more than once providing no changes are made in their design, construction, or adjustment.

6.5.7.5 In case of life test failure of one or more of the devices in items 6.5.7.1, 6.5.7.2, 6.5.7.2.1, 6.5.7.2.2, 6.5.7.3, and 6.5.7.3.2, the test may be continued to qualify the heater or devices that have not failed. A separate life test shall apply only to the failed device if necessary to establish reliability.

7. *Desirable features* (Not Mandatory).

7.1 *Operation.*

7.1.1 The operation of the heater and accompanying devices should require a minimum of moving parts.

7.1.2 The heater should start operation within five seconds at −65° F. at sea level and at its service ceiling, and should reach its maximum output within three minutes after being started.

7.1.3 The heater should be designed in such a manner as to preclude violent explosions on being started.

7.1.4 The heater should be designed in such a manner and made from such materials as to withstand deteriorating effects of high humidity, condensation, fungus, and abrasive particles in the air.

7.1.5 The heater and its accompanying devices should not be adversely affected if subjected to ambient temperatures up to 160° F. for indefinite periods.

7.1.6 The heater should be designed to give low air pressure drop at high altitudes.

7.1.7 Where necessary, additional devices such as the following, may be provided to improve heater operation.

7.1.7.1 Air pressure regulator.
7.1.7.2 Fuel pressure regulator.
7.1.7.3 Combustion air blower.
7.1.7.4 Ventilating air blower.
7.1.7.5 Fuel air ratio control.
7.1.7.6 Thermal cycling switch.
7.1.7.7 Cabin heat controls.

7.2 *Igniter.* The igniter should be accessible for quick replacement or servicing.

7.3 *Fuel nozzle.* The fuel nozzle should be accessible for quick replacement or servicing.

(2) *Application.* (i) Combustion heaters complying with the specifications appearing in this order are hereby approved for all aircraft. Heaters already approved may continue to be installed in aircraft:

(*a*) For which an application for original type certificate is made prior to the effective date of this order.

(*b*) The prototype of which is flown within one year after the effective date of this order, and

(*c*) The prototype of which is not flown within one year after the effective date of this order if due to causes beyond the applicant's control.

(ii) If an alteration involving a change in type or model of heater is made within nine months after the effective date of this order, previously approved types of heaters may be installed. However, in any such change made after the nine-month period, new types of heaters installed shall meet the specifications contained in this section.

(c) *Specific instructions*—(1) *Marking.* In addition to the identification information required in the referenced specification, each heater shall be permanently marked with the Technical Standard Order designation, FAA–TSO–C20, to identify the heater as meeting the requirements of this order in accordance with the manufacturers' statement of conformance outlined in subparagraph (5) of this paragraph. This identification will be accepted by the Administrator as evidence that the established minimum safety requirements for combustion heaters have been met.

(2) *Data requirements.* Ten copies of the following technical information shall be submitted by the manufacturer of the heater with his Statement of Conformance to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(i) Rated combustion air flow rates (or pressure drop) including minimum safe rate and variation with altitude.

(ii) Rated ventilating air flow rates (or pressure drop) including minimum safe rate and variation with altitude.

(iii) Ignition characteristics curve established in accordance with section 6.1.1 of Specification AS143B.

(iv) Minimum operating voltage used for subdivision (iii) of this subparagraph.

(v) Maximum operating altitude.

(vi) Operating fuel pressure.

(vii) Installation diagram showing installation of safety devices necessary to achieve compliance with sections 4.2, 5.7 and 6.5.7 through 6.5.7.2.2.1 of Specification AS143B.

(viii) Recommended electrical arrangement and any necessary limitations and pressure or temperature settings which are considered essential to proper and safe installation and operation.

(3) *Effective date.* After June 15, 1949, specifications contained in this order will constitute the basis for approval of combustion heaters for use in certificated aircraft.

(4) *Deviations.* Requests for deviation from, or waiver of, the requirements of this order, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, a written statement of conformance signed by a responsible official of his company, setting forth that the heater to be produced by him meets the minimum safety requirements established in this order. This statement shall indicate whether the heater meets the standards for cabin or wing-empennage heaters as prescribed in SAE Aeronautical Standard AS–143B and whether it has met the standards of this specification pertinent to pressurized systems. Immediately thereafter distribution of the heaters conforming with the terms of this order may be started and continued.

(ii) The prescribed identification on the heater does not relieve the aircraft manufacturer or owner of responsibility for the proper application of the heater in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this order are brought to the attention of the Administrator and investigation indicates that such complaints are justified. The Administrator takes appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.131 Special aircraft turnbuckle assemblies and/or turnbuckle safetying devices—TSO–C21a.

(a) *Applicability.* (1) Minimum performance standards: Minimum performance standards are hereby established for special turnbuckle assemblies and/or safetying devices which are to be used on civil aircraft of the United States.

(2) New models of special turnbuckle assemblies and/or safetying devices manufactured on or after July 1, 1958, shall meet the performance requirements as set forth in sections 3 and 4 of Military Specification MIL–T–5685A dated April 6, 1950,[1] with the additional tests, when applicable, listed below. Special turnbuckle assemblies and/or safetying devices already approved may continue to be used for the purposes for which approved.

(3) Tests: The following tests, when applicable, are required in addition to those set forth in MIL–T–5685A, and shall be conducted to substantiate the strength and reliability of special turnbuckle assemblies and/or safetying devices. A minimum of six samples each shall be used in conducting the tests for torsion, tension, fatigue (tensile), and fatigue (torsion).

(i) *Torsion.* At least one sample of each size turnbuckle assembly and safetying device shall be tested in torsion to determine that the torque necessary to overcome the turnbuckle thread friction and break the safetying device is equal to or greater than that required when the conventional safety wire is used in accordance with the safetying procedure recommended in Civil Aeronautics

[1] Copies may be obtained from the Commander, Air Materiel Command, Attn: MCSIFF–2, Wright-Patterson Air Force Base, Ohio, or from the Commanding Officer, Naval Aviation Supply Depot, 700 Robbins Ave., Philadelphia 11, Pa., Code AD.

Manual 4b.329–2 effective April 30, 1955 [20 F.R. 2278].

(ii) *Tension.* At least one sample of each size turnbuckle and safetying device assembly shall be tested to determine that the turnbuckle assembly (including safetying device) will not fail at any tensile load under the maximum (ultimate) tensile strength for which the comparable standard MIL or NAS turnbuckle is rated. For this test, the sample shall consist of the turnbuckle assembly (including safetying device) with a two (2) foot length of cable appropriately attached to each terminal (end) of the turnbuckle. In making the determination, the sample shall be tested for tensile strength in accordance with Federal Test Method Std. No. 151.[2] If the sample does not fail under the specified maximum load, it need not be tested further to destruction.

(iii) *Vibration.* At least one sample of each of 3 representative sizes of turnbuckle assemblies, i. e., the smallest, the largest, and an intermediate size, shall be vibrated to determine that the lock wire, or other safetying device which relies upon spring action or clamping to safety the turnbuckle, can be depended upon not to jump out of place or otherwise lose its safetying properties, under vibratory conditions apt to be encountered in aircraft service. It is suggested that a cable tension load equal to 25 percent of rated ultimate cable strength and a frequency of 3600 cpm with an overall amplitude of ⅛ inch (parallel to the axis of the hole through the barrel) for 25 hours, be used for this determination.

(iv) *Fatigue (tensile).* At least one sample of each size turnbuckle assembly shall be given a repeated load test, in which a load equal to two-thirds the ultimate tensile strength requirement is applied repeatedly in tension for 300 applications of the load without failure of any component part. For this test, the sample shall consist of the turnbuckle assembly (including safetying device) with a two (2) foot length of cable appropriately attached to each terminal (end) of the turnbuckle.

(v) *Fatigue (bending).* The safety wire used in the conventional lock wire safetying procedure recommended in CAM 4b.329–2 is not considered to be re-usable. If the safety device used with the special aircraft turnbuckle assembly is to be considered re-usable, at least three (3) samples of the shortest formed non-standard safety wire (or other finished safetying device) shall be tested by alternate fastening and unfastening of the wire (or other safetying device), to determine that the device will not break after repeated applications of the bending loads involved. 200 on and off cycles, simulating rough treatment apt to be experienced during maintenance should substantiate a reasonable service life. It is felt that the shortest safety wire (or other safetying device) will be subjected to the greatest bending stresses. However, if the stresses may be greater in a longer wire (or other safetying device) intended for a larger size turnbuckle, the larger size turnbuckle and the longer wire (or other safetying device) shall be used for this test.

(vi) *Fatigue (torsion).* At least one sample of each size turnbuckle assembly and/or safetying device shall be given a repeated load test in which a load equal to two-thirds the torque (determined in test No. 1 above) required to overcome the turnbuckle thread friction and break the conventional safety wire (CAM 4b.329–2) is applied in torsion first in one direction and then reversed for 3000 complete cycles of reversal without failure of any component part.

[2] Copies may be obtained from the General Services Administration, Business Service Center, Region 3, Seventh and D Streets, SW., Washington 25, D. C., for 70¢ each.

§ 37.132 Safety belts—TSO–C22e.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for safety belts which are to be used on civil aircraft of the United States. New models of safety belts manufactured for installation on civil aircraft on or after the effective date of this section shall meet the standards of National Aircraft Standards Specification 802, revised May 15, 1950,[1] with the exceptions covered in subparagraph (2) of this paragraph. Belts approved under prior issuances of this section may continue to be manufactured under the earlier provisions.

(2) *Exceptions.* (i) For the purpose of this section the strengths specified in section 4.1.1 of NAS 802 shall be 1,500 pounds and 3,000 pounds instead of 3,000 pounds and 6,000 pounds.

(ii) In complying with section 4.3.2.2 of NAS 802, the curved portion of the test form may be padded with no more than one inch of medium density sponge rubber, or equivalent, and covered with suitable fabric to simulate a person's body and clothing.

(iii) Synthetic material webbing which is not subject to loss of strength due to the influence of humidity, temperature variations, etc., need not be subjected to the first six-month retesting period specified in section 3.1.2 of NAS 802. Retesting at succeeding six-month periods will be necessary if the belt manufacturer is unable to ascertain by means of textile data available to him that the webbing is unaffected by ambient storage conditions for the period of time involved.

(iv) In complying with section 4.1.3 of NAS 802, the two-inch webbing width shall be considered a nominal width. Thus, after considering all manufacturing processes as are necessary such as weaving, dyeing, mildew proofing, flame resistance and abrasion treatments, a webbing width of $1\frac{15}{16}$ inches $\pm\frac{1}{16}$ inch shall be acceptable.

(v) The slots or openings in the hardware for attachment of the safety belt webbing shall not be less than two inches.

(b) *Marking.* (1) Each half of each safety belt shall be marked in accordance with § 37.7 except that the weight required by paragraph (c) of § 37.7 need not be shown and the rated strength of the safety belt assembly shall be shown, and

(2) In lieu of the marking requirement in paragraph (d) of § 37.7 the date of manufacture is required. The serial number may also be marked on the belt but not in lieu of the date of manufacture.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file on complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) One copy of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located: A drawing of the complete belt assembly showing the manufacturer's part numbers together with a notation indicating the minimum webbing strength specified by the belt manufacturer. If the test belts were tested to destruction, the average strength of the belt assembly should also be indicated.

(d) *Quality control.* Each safety belt shall be produced under a quality control system, established by the manufacturer, which will assure that each belt is in conformity with the requirements of this standard. This system shall be described in the data required under paragraph (c) (2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this standard.

[1] Copies may be obtained from the National Standards Association, 616 Washington Loan and Trust Building, Washington 4, D.C.

§ 37.133 Parachutes—TSO C23b.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for parachutes which are to be used in civil aircraft of the United States. New models of parachutes manufactured for use in civil aircraft of the United States on or after the effective date of this section shall meet the minimum performance standards of National Aircraft Standards Specification 804 dated August 24, 1949,[1] with the exceptions covered in subparagraph (2) of this paragraph. Parachutes approved prior to the effective date of this section may continue to be manufactured under the provisions of the original approval.

(2) *Exceptions.* (i) The auxiliary parachute used in combination with a standard parachute shall be designed for use in combination with the specific main parachute.

(ii) For the purpose of testing an auxiliary type parachute used in combination with a standard parachute the speed specified in section 4.3.8 of NAS Specification 804 shall be 25 feet per second instead of 21 feet per second.

(b) *Marking.* The auxiliary parachute and its pack shall be marked "Auxiliary Parachute" in addition to the

[1] Copies may be obtained from the National Standards Association, 616 Washington Loan and Trust Building, Washington 4, D.C.

other marking requirements contained in § 37.7.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(d) *Quality control.* Each parachute shall be produced under a quality control system, established by the manufacturer, which will assure that each parachute is in conformity with the requirements of this section. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

§ 37.134 Technical Standard Order C24: "Landing Flares".

(a) *Introduction.* (1) This Technical Standard Order is intended to serve as a criterion by which the product manufacturer may obtain approval of his landing flares.

(b) *Directive* — (1) *Provision.* (i) The performance requirements for landing flares as set forth in sections 4.1 and 4.3 of National Aircraft Standards Specification NAS 805 dated February 15, 1950,[1] stated below, are hereby established as minimum performance requirements for landing flares intended for use in civil aircraft.

1. *Applicable specifications.*
1.1 None.
2. *Types.*
2.1 This specification covers four types of landing flares suitable for use in certificated civil aircraft.
Class 1.
Class 1A.
Class 2.
Class 3.
3. *Material and workmanship.*
3.1 Materials shall be of a quality which experience and/or tests have conclusively demonstrated to be suitable for use in landing flares. Workmanship shall be consistent with high-grade landing flare manufacturing practice.
3.2 The flare body should be so sealed as to reduce to a minimum deterioration of the ignition element and to increase, insofar as possible the service life of the unit. All metal parts should be suitably protected against corrosion. All fabric except nylon material should be mildew-proofed.
4. *Detail requirements.*
4.1 *Design and construction.*
4.1.1 *Light duration.* Flares shall have a minimum light duration as follows:
Classes 1 and 1A—3 minutes.
Class 2—1½ minutes.
Class 3—1 minute.
4.1.2 *Light intensity.* Flares shall have a minimum light intensity as follows:
Classes 1 and 1A—300,000 candlepower.
Class 2—110,000 candlepower.
Class 3—70,000 candlepower.
4.1.3 *Rate of descent.* Flares shall have an average rate of descent not greater than 550 feet per minute.
4.1.4 *Delaying fuse.* Class 1A flares shall incorporate a 90 second plus or minus 10 seconds delaying fuse.
4.1.5 *Firing cord.* Flares incorporating a manual firing cord actuating cable shall have cord length not less than 20 feet.
4.2 *Marking and instructions.*
4.2.1 Each flare shall carry the following information legibly marked on or attached to the flare and the flare container:
Manufacturer's name.
Model number or model name.
Instructions for installation procedures and safety precautions.
Date of manufacture (month and year).
National Aircraft Standard Number NAS 805.
4.3 *Qualification tests.* The following qualification tests shall be conducted.
4.3.1 *Functional tests.* Five flares of each model shall be installed in an airplane according to the manufacturer's instructions and shall be dropped from an altitude adequate to insure complete burning of the flare prior to ground contact.
4.3.1.1 In the event that there is one failure out of the five flares subjected to the functional tests, five additional flares shall be subjected to the functional tests.
4.3.1.2 Failure of two or more flares out of the ten dropped shall be sufficient grounds for rejection. The flare model will be considered to be satisfactory only if all five original flares function satisfactorily or in the event of one failure in the original five, if the second five function satisfactorily.

(2) *Application.* (i) Landing flares complying with the specifications appearing in this Technical Standard Order are hereby approved for use in all aircraft. Landing flares already approved may continue to be installed in aircraft.

(ii) If an installation change involving a new type or model landing flare is made within nine months after the effective date of this section, previously approved types of landing flares may be installed. However, in any such change made after the nine-month period, new types of landing flares installed in aircraft shall meet the specifications contained herein.

(c) *Specific instructions*—(1) *Marking.* (i) In addition to the identification information required in the referenced specification, except that the NAS 805 number is not required) each flare shall be permanently marked with the Technical Standard Order designation, FAA–TSO–C24, to identify the landing flare as meeting the requirements of this section in accordance with the manufacturers' statement of conformance outlined below. The Administrator accepts this identification as evidence that the established minimum safety requirements for landing flares have been met.

(2) *Data requirements.* (i) None.

(3) *Effective date.* (i) After October 10, 1950, specifications contained in this section will constitute the basis for approval of landing flares for use in civil aircraft.

(4) *Deviations.* (i) Requests for deviation from, or waiver of, the requirements of this section, which affect the basic airworthiness of the component, should be submitted for approval by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(5) *Conformance.* (i) The manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, a written statement of conformance signed by a responsible official of his company, setting forth that the landing flares to be produced by him meet the minimum safety standards established in this section. Immediately thereafter distribution of the landing flares conforming with the terms of this section may be started and continued.

(ii) The prescribed identification on the landing flares does not relieve the aircraft manufacturer or owner of responsibility for the proper installation of the landing flares in his aircraft, nor waive any of the requirements concerning type certification of the aircraft in accordance with existing Federal Aviation Regulations.

(iii) If complaints of nonconformance with the requirements of this section are brought to the attention of the Administrator and investigation indicates that such complaints are justified, the Administrator takes appropriate action to restrict the use of the product involved.

(iv) Copies of this Technical Standard Order and other Technical Standard Orders may be obtained from the Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

§ 37.135 Aircraft seats and berths (Type I transport, 6g forward load)—TSO–C25a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft seats and berths (Type I transport, 6g forward load) which are to be used in civil aircraft of the United States. These standards apply to Type I transport seats for use in transport category aircraft for which an application for type certificate was made prior to March 5, 1952.[3] New models of seats and berths (Type I transport, 6g forward load) manufactured for installation in civil aircraft on or after January 15, 1957 shall meet the standards of National Aircraft Standard Specification 806, revised January 1, 1956,[4] with the changes and exceptions listed in subparagraph (2) of this paragraph. Seats and berths approved by the Civil Aeronautics Administration prior to January 15, 1957, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) The ultimate loads corresponding to the aircraft reduced weight gust load factor or the airplane designer's special requirements may exceed the ultimate down loads for Type I seats specified in subsection 4.1.2 of NAS 806. For the purpose of this section, in order to provide for such loading conditions, the ultimate down loads specified in Table I of 4.1.2 for Type I seats shall be 1,000 pounds (6g) instead of 765 pounds.

(ii) To insure that pilot and copilot seats will provide for the rearward loads

[1] Copies may be obtained from the American Aeronautical Forum, 527 Washington Loan and Trust Building, Washington 4, D. C.

[3] Standards for Types II, III, IV, and I (for installation in aircraft for which an application for type certificate was made after March 5, 1952), are contained in § 37.136 (TSO–C39).

[4] Copies may be obtained from the National Standards Association, 616 Washington Loan and Trust Building, Washington 4, D. C.

resulting from the application of pilot forces to the flight controls, such seats shall withstand a rearward load of 450 pounds. The load shall be applied 8 inches above the intersection of the seat back with the seat bottom.

(iii) The weight of the seat or berth times the appropriate "g" value shall be added to the design ultimate load specified in subdivision (i) of this subparagraph and in subsection 4.1.2 of NAS 806.

(iv) For the purpose of this section, 4.3 (c) of NAS 806 should read: "that the structure is capable of supporting without failure for at least 3 seconds the ultimate loads specified in this order when applied separately."

(b) *Marking.* The weight required in § 37.7 need not be included.

§ 37.136 Aircraft seats and berths—TSO–C39.

(a) *Applicability*—(1) *Minimum performance standards.* (i) Minimum performance standards are hereby established for aircraft seats and berths of the following types which are to be used in civil aircraft of the United States:

Type I—Transport (9g forward load).
Type II—Normal and utility.
Type III—Acrobatic.
Type IV—Rotorcraft.

(ii) New models of seats and berths manufactured for installation in civil aircraft on or after the effective date of this order shall meet the standards of National Aircraft Standards Specification 809, dated January 1, 1956,[4] with the exception in subparagraph (2) of this paragraph. Seats and berths approved by the Civil Aeronautics Administration prior to January 15, 1957, may continue to be manufactured under the provisions of their original approval.

(2) *Exception.* The sideward loads as specified in 4.1.2 Table I need not exceed the requirements of the applicable Federal Aviation Regulations.

(b) *Marking.* The weight required in § 37.7 need not be included.

§ 37.137 Airborne radio marker receiving equipment operating on 75 mc. (for air carrier aircraft)—TSO–C35c.

(a) *Applicability.* (1) Minimum performance standards are hereby established for airborne radio marker receiving equipment operating on 75 mc. which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne radio marker receiving equipment operating on 75 mc. manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the minimum performance standards contained in Federal Aviation Agency Standard entitled "Minimum Performance Standards for Airborne Radio Marker Receiving Equipment Operating on 75 mc.",[1] dated April 6, 1962, and Radio Technical Commission for Aeronautics Paper 120–61/DO–108[2] entitled, "Environmental Test Procedures Airborne Electronic Equipment", dated July 13, 1961, with the exceptions to these standards listed in subparagraph (2) of this paragraph.

(2) Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D;

(ii) Humidity Test—Categories A or B;

(iii) Vibration Test—Categories A, B, C, D, E, or F;

(iv) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B;

(v) Radio-Frequency Susceptibility Test—Category A; and

(vi) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the marking requirements of § 37.7(d), the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These should be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations shall appear on the nameplate in the following order so that they may be readily identified:

(i) Temperature-Altitude Test Category;

(ii) Humidity Test Category;

(iii) Vibration Test Category;

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category;

(v) Radio-Frequency Susceptibility Test Category;

(vi) Emission of Spurious Radio-Frequency Energy Test Category; and

(vii) Explosion Test.

(2) Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X". A typical nameplate identification would be as follows: Env. Cat. DABAAAX.

(3) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env. Cat. $\frac{A}{D}$ABAAAX.

(4) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of the manufacturer's operating instructions and equipment limitations;

(2) Six copies of the installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(3) One copy of the manufacturer's test report.

§ 37.138 VOR radio receiving equipment operating within the radio-frequency range of 108–118 megacycles (for air carrier aircraft)—TSO–C40a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne VOR radio receiving equipment operating within the radio-frequency range of 108–118 megacycles which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne VOR radio receiving equipment manufactured for use on civil air carrier aircraft on or after September 1, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards Airborne VOR Receiving Equipment Operating Within the Radio Frequency Range of 108–118 Megacycles," as amended (Paper 225–55/DO–69 dated December 13, 1955, and amendment, Paper 253–58/EC–363 dated November 13, 1958).[3] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60[3] which is incorporated by reference in and thus is a part of Paper 225–55/DO–69 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[2] Copies of this paper may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets, NW., Washington, D.C., 20006, at a cost of 75 cents per copy.

[3] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 225–55/DO–69, 30 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne VOR radio receiving equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used.

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 5–50 cps.
Maximum Acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration requirements specified in subdivision (ii) of this subparagraph and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such as CAT. A—I.P.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne VOR radio receiving equipment approved prior to September 1, 1959, may continue to be manufactured under the provisions of its original approval.

§ 37.139 Airborne radio receiving and direction finding equipment operating within the radio frequency range of 200–415 kilocycles (for air carrier aircraft)—TSO–C41b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne radio receiving and direction finding equipment operating within the radio frequency range of 200–415 kilocycles which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne radio receiving and direction finding equipment manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the standards as set forth in Radio Technical Commission for Aeronautics Papers 158–61/DO–111[1] dated August 10, 1961, and 120–61/DO–108[1] dated July 13, 1961. Exceptions to these standards are listed in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D.

(ii) Humidity Test—Categories A or B.

(iii) Vibration Test—Categories A, B, C, D, E, or F.

(iv) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B.

(v) Radio-Frequency Susceptibility Test—Category A.

(vi) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Markings.* (1) In addition to the marking requirements of § 37.7(d), the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These should be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations should appear on the nameplate in the following order, so that they may be readily identified:

(i) Temperature-Altitude Test Category.

(ii) Humidity Test Category.

(iii) Vibration Test Category.

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category.

(v) Radio-Frequency Susceptibility Test Category.

(vi) Emission of Spurious Radio-Frequency Energy Test Category; and

(vii) Explosion Test.

(2) Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X". A typical nameplate identification would be as follows: Env. Cat. DABAAAX.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006, Paper 158–61/DO–111, 60 cents per copy; Paper 120–61/DO–108, 75 cents per copy.

(3) (i) Two classes of equipment are specified as follows:

(*a*) Class A—For equipment intended for operation in the European-Mediterranean area (EUM) and in other areas where the frequency and geographical separation of ground facilities and their output powers are similar to those in the (EUM) area.

(*b*) Class B—For equipment intended for operation in the United States and in other areas where the frequency and geographical separation of ground facilities and their output powers are similar to those in the United States area.

(ii) The class of the equipment shall be identified on the nameplate. Equipment which complies with both Class A and Class B requirements need only be marked as Class A equipment. A typical nameplate identification would be as follows: Env. Cat. DABAAAX Class A.

(4) In some cases, such as under the Temperature-Altitude Test Category, a manufacturer may elect to qualify his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner:

Env. Cat. $\frac{A}{D}$ABAAAX Class A.

(5) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of the manufacturer's operating instructions and equipment limitations;

(2) Six copies of the installation procedures with applicable schematic drawings, wiring diagrams, and specifications (indicate any limitations, restrictions, or other conditions pertinent to installation); and

(3) One copy of the manufacturer's test report.

§ 37.140 Propeller feathering hose assemblies (rubber and wire braid construction)—TSO–C42a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for propeller feathering hose assemblies of the following types which are to be used in civil aircraft of the United States:

(i) Type 1 (pressure line) hose assemblies which are intended to be used in the line connecting the feathering pump outlet to the propeller governor.

(ii) Type 2 (supply line "fire-resistant") hose assemblies which are intended to be used in the line connecting the oil supply to the feathering pump where this entire line is located aft of the firewall.

(iii) Type 3 (supply line "fireproof") hose assemblies which are intended to be

used in the line connecting the oil supply to the feathering pump where this line is located wholly or in part forward of the firewall.

New models of propeller feathering hose assemblies manufactured for use in civil aircraft on or after March 1, 1957, shall meet the "performance" section of Military Specification MIL–H–8795 (ASG) dated January 6, 1956,[1] or MIL–H–8790 dated August 22, 1956,[1] with the following exception and shall also meet the appropriate fire test requirements listed below.

(2) *Exception.* The hydraulic impulse test requirements in MIL–H–8795 (ASG) and MIL–H–8790 need not be met for the purposes of this section.

(3) *Pressure line (type 1) hose assembly fire test*—(i) *Test setup and flame requirements.* (*a*) For the purpose of this test, a length of hose five times the outside diameter or longer shall be subjected to a flame of the size and temperature specified in (*d*) and (*e*) of this subdivision while the hose is in a horizontal position. The entire end fitting shall also be subjected to this flame.

(*b*) The hose assembly shall be installed horizontally in the test setup in such a manner that it includes at least one full 90° bend so that the pressure existing inside the hose will exert an axial force on the end fitting equal to the inside area of the hose multiplied by the internal pressure.

(*c*) During the test the end fitting which is subjected to flame shall be vibrated at the rate of 2,000 cycles per minute through a total amplitude of not less than ⅛ inch, i. e., a displacement of 1/16 inch on each side of the neutral position.

(*d*) The flame temperature shall be 2,000° F., plus or minus 50° F. as measured within ¼ inch of the surface of the hose and end fitting at the point nearest the flame. Suitable shielded thermocouples or equivalent temperature measuring devices shall be used for measuring the flame temperature. A sufficient number of these shall be used to assure that the specified temperature exists at least along the entire end fitting and along the hose for a distance of not less than three times its outside diameter.

(*e*) The flame diameter shall not be less than three times the maximum diameter of the hose or three times the maximum diameter of the end fitting (whichever is greater). The length of the flame shall be such that it extends beyond the end fitting and hose when they are in place during the test, for a distance of not less than three times the maximum diameter of the hose or three times the maximum diameter of the end fitting, whichever is greater.

(*f*) During the test SAE 20 oil or equivalent shall be circulated through the hose assembly, and the oil shall enter the hose assembly at a temperature of not less than 200° F.

[1] Copies of these specifications may be obtained by addressing a request to the Commanding General, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio.

NOTE: Items (*d*) and (*e*) of this subdivision, concerning flame size and distribution, will be revised in accordance with agreements reached with the SAE A–3 Flame Test Subcommittee, when its study of this problem is completed.

(ii) *Fire test procedure*—(*a*) *Part I.*

Pressure: 150 psi (minimum).
Oil flow rate: 1.3 quarts/minute (maximum).
Duration: 4 minutes, 30 seconds.

(*b*) *Part II (which shall immediately follow Part I).*

Pressure: 1,650 psi (minimum).
Oil flow rate: 14 quarts/minute (maximum; any lower flow rate is acceptable).
Duration: 30 seconds.

(iii) *Criteria for acceptability.* The hose assembly under test shall be considered acceptable if it complies with these test conditions without evidence of leakage.

(4) *Supply line "fire-resistant" (type 2) hose assembly fire test*—(i) *Test setup and flame requirements.* Same as subparagraph (3) (i) of this paragraph.

(ii) *Fire test procedure.*

Pressure: 30 psi (minimum).
Oil flow rate: 1.3 quarts/minute (maximum).
Duration: 5 minutes.

(iii) *Criteria for acceptability.* Same as subparagraph (3) (iii) of this paragraph.

(5) *Supply line "fireproof" (type 3) hose assembly fire test*—(i)—*Test setup and flame requirements.* Same as subparagraph (3) (i) of this paragraph.

(ii) *Fire test procedure.* Test shall be conducted as described in subparagraph (4) (ii) of this paragraph except that upon completion thereof test shall be extended for an additional 10 minutes, making the total duration 15 minutes.

(iii) *Criteria for acceptability.* Same as subparagraph (3) (iii) of this paragraph.

(b) *Marking.* The following marking is required in lieu of that specified in § 37.7:

(1) Name or trademark of the manufacturer responsible for compliance with this TSO.

(2) Model designation.

(3) Date of manufacture.

(4) Applicable TSO number, followed immediately by "Type Number" (as "Type 1", etc.). This identification must be legibly stampled on a steel (or other fireproof material) band securely affixed to the hose assembly.

§ 37.141 Aircraft position lights—TSO–C30b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for position lights which are to be used in civil aircraft of the United States.[1] New models of position lights manufactured for installation on civil aircraft on or after March 31, 1957, shall meet the standards set forth in SAE Specification AS271, "Aircraft Position Lights," dated October 15, 1952,[2] with the exception listed in subparagraph (2) of this paragraph. Position lights approved by the Civil Aeronautics Administration prior to March 31, 1957, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* For the purpose of this section only the standards set forth in subsection 3.3 and section 4 (except subsection 4.3.2.3 and 4.7) need be complied with.

(b) *Marking.* In lieu of the marking requirements of paragraph (c) of § 37.7, the minimum lamp candle power or lamp part number shall be shown.

[1] The number and types of position lights for each aircraft category are established in Federal Aviation Regulations Parts 23, 25, 27 and 29 of this title. In general, air-carrier aircraft use all five types listed in AS271, section 2, while other aircraft are equipped with types I, II, and III only.

§ 37.142 Temperature indicators—TSO–C43.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for temperature indicators which specifically are required to be approved for use in civil aircraft of the United States. New models of temperature indicators manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–413A, "Temperature Indicator," dated December 15, 1954.[2] Temperature indicators approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the rating shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.143 Fuel flow meters—TSO–C44.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for fuel flow meters which specifically are required to be approved for use in civil aircraft of the United States. New models of fuel flow meters manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–407A, "Fuel Flow Meters," dated December 14, 1954.[1] Fuel flow meters approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the range and rating shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy

[2] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.144 Manifold pressure indicating instruments—TSO–C45.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for manifold pressure indicating instruments which specifically are required to be approved for use in civil aircraft of the United States. New models of manifold pressure indicating instruments manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–411, "Manifold Pressure Indicating Instruments," dated November 1, 1948.[1] Manifold pressure indicating instruments approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the range shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.145 Maximum allowable airspeed indicators—TSO–C46a.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for maximum allowable airspeed indicators which specifically are required to be approved for use in civil aircraft of the United States. New models of maximum allowable airspeed indicators manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–418, "Maximum Allowable Airspeed Indicators," dated December 15, 1956.[1] Maximum allowable airspeed indicators approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of the original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the range shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, New York.

§ 37.146 Pressure instruments—fuel, oil, and hydraulic—TSO–C47.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for pressure instruments—fuel, oil, and hydraulic—which specifically are required to be approved for use in civil aircraft of the United States. New models of pressure indicators—fuel, oil, and hydraulic—manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–408A, "Pressure Instruments—Fuel, Oil, and Hydraulic," dated December 15, 1954.[1] Pressure instruments—fuel, oil, and hydraulic—approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the rating and range shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.147 Carbon monoxide detector instruments—TSO–C48.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for carbon monoxide detector instruments which specifically are required to be approved for use in civil aircraft of the United States. New models of carbon monoxide detector instruments manufactured for installation in civil aircraft on or after October 15, 1957, shall meet the standards set forth in SAE Aeronautical Standard AS–412A, "Carbon Monoxide Detector Instruments," dated December 15, 1956.[1] Carbon monoxide detector instruments approved by the Civil Aeronautics Administration prior to October 15, 1957, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the rating shall be shown.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.148 Electric tachometer: magnetic drag (for air carrier aircraft)—TSO–C49a.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for electric tachometers which specifically are required to be approved for use on civil aircraft of the United States. New models of electric tachometers manufactured for installation on civil aircraft on or after October 15, 1960, shall meet the standards set forth in SAE Aeronautical Standard AS–404B, "Electric Tachometer: Magnetic Drag (Indicator and Generator)," dated February 1, 1959[1] with exceptions, additions, and substitutions to the standards listed in subparagraph (2) of this paragraph.[2] Electric tachometers approved prior to October 15, 1960, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) The following specifically numbered parts in AS–404B do not concern minimum performance and therefore are not essential to compliance with this section: Parts 3.1, 3.1.1, 3.1.2, 3.2, 3.2 (a) (b) (c) (d) (e) (f), 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.4, and 4.1.3.5.

(ii) In lieu of part 7 in AS–404B, it is a requirement that tachometers covered by this section be capable of successfully passing the tests in parts 7.1 through 7.8.

(b) *Marking.* In addition to the markings specified in § 37.7, range and rating shall be shown.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and instrument limitations.

(ii) Drawing or photograph showing exploded view of instruments.

(iii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(d) *Quality control.* Each electric tachometer shall be produced under a quality control system, established by the manufacturer, which will assure that each tachometer is in conformity with the requirements of this section and is in condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

§ 37.149 Aircraft audio and interphone amplifiers (for air carrier aircraft)—TSO–C50a.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for aircraft audio and interphone amplifiers which are to be used on civil aircraft of the United States engaged in air carrier operation. New models of aircraft audio and interphone amplifiers

[2] When electric tachometers are installed on civil aircraft, the installation must comply with the functional and installational requirements of Parts 23, 25, 27, or 29 of the Federal Aviation Regulations as applicable.

manufactured for use on civil air carrier aircraft on or after September 1, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards Aircraft Audio and Interphone Amplifiers," as amended (Paper 45–57/DO–78 dated March 15, 1957, and amendment, Paper 255–58/EC–365 dated November 13, 1958).[10] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [10] which is incorporated in by reference and thus is a part of Paper 45–57/DO–78 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only aircraft audio and interphone amplifiers which meet the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, are eligible under this section.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne audio and interphone amplifiers approved prior to September 1, 1959, may continue to be manufactured under the provisions of their original approval.

§ 37.150 Aircraft flight recorder—TSO–C51.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft flight recorders which specifically are required to be approved for use in civil aircraft of the United States. Aircraft flight recorders eligible for installation in civil aircraft shall meet the standards set forth in CAA–CAB Standard, "Aircraft Flight Recorder", dated June 12, 1958.[1]

(b) *Marking.* In addition to the markings in § 37.7, the rating (nominal voltage and wattage) shall also be marked on the recorder.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.151 Flight directors—TSO–C52a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for flight directors which specifically are required to be approved for use on civil aircraft of the United States. New models of flight directors manufactured for installation on civil aircraft on or after the effective date of this section shall meet the standards set forth in SAE Aeronautical Standard AS–420A, "Flight Directors," revised November 15, 1959,[2] with exceptions and additions to the standards listed in subparagraph (2) of this paragraph.

(2) *Exceptions and additions.* (i) The following specifically numbered parts in AS–420A do not concern minimum performance and therefore are not essential to compliance with this section: parts: 3.1; 3.1.1; 3.1.2; 3.2(a), (b), (c), (d), (e); and 4.1.1.3.

(ii) In lieu of part 7, it is a requirement that flight directors covered by this section be capable of successfully passing the tests in parts 7.1 through 7.6.

(iii) Thermal shock: This test shall apply to any hermetically sealed components. The component shall be subjected to four cycles of exposure to water at 85°±2° C. and 5°±2° C. without evidence of moisture penetration or damage to coating or enclosure. Each cycle of the test shall consist of immersing the component in water at 85°±2° C. for a period of 30 minutes, and then within 5 seconds of removal from the bath, the component shall be immersed for a period of 30 minutes in the other bath maintained at 5°±2° C. This cycle shall be repeated continuously, one cycle following the other until four cycles have been completed. Following this test, the component shall be subjected to the Sealing test specified in subdivision (iv) of this subparagraph. No leakage shall occur as a result of this test.

(iv) Sealing: This performance test shall apply to each hermetically sealed instrument. The instrument shall be immersed in a suitable liquid, such as water. The absolute pressure of the air above the liquid shall then be reduced to approximately one inch of mercury (Hg) and maintained for one minute, or until air bubbles cease to be given off by the liquid, whichever is longer. The absolute pressure shall then be increased by 2½ inches Hg. Any bubbles coming from within the indicator case shall be considered as leakage and shall be cause for rejection. Bubbles which are the result of entrapped air in the various exterior parts of the case shall not be considered as leakage. Other test methods which provide evidence equal to the immersion test of the integrity of the instrument's seals may be used. If the instrument incorporates nonhermetically sealed appurtenances, such as a case extension, these appurtenances may be removed prior to the sealing test.

(v) In addition to paragraph 4.6.2, the indicating means shall be readily discernible under any lighting condition normally encountered in aircraft.

(b) *Marking.* In addition to the markings specified in § 37.7 range and rating shall be shown.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) *Quality control* of this section.)

(3) Six copies each, except where noted, of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(i) Manufacturer's operating instructions and instrument limitations.

(ii) Drawings of major components or photographs showing exploded views of instruments.

(iii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation with the statement of conformance certifying that the instrument conforms to this section.

(iv) One copy of the manufacturer's test report.

(d) *Quality control.* Each flight director shall be produced under a quality control system, established by the manufacturer, which will assure that each flight director is in conformity with the requirements of this section and is in condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Flight directors approved prior to the effective date of this section may continue to be manufactured under the provisions of their original approval.

§ 37.152 Fuel and engine oil system hose assemblies (rubber or tetrafluoroethylene tube and wire braid construction)—TSO–C53a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum per-

[10] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 45–57/DO–78, 25 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

[1] Copies may be obtained from the Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[2] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, N.Y.

formance standards are hereby established for new models of fuel and engine oil system hose assemblies[1] of the following types manufactured on or after the effective date of this section, which are to be used on civil aircraft of the United States. Fuel and engine oil system hose assemblies of the following types approved prior to the effective date of this section may continue to be manufactured under the provisions of their original approval.

(i) *Type A.* Non-fire-resistant "normal" temperature hose assemblies which are intended to be used in locations outside fire zones where the fluid and ambient air temperatures do not exceed 250° F.

(ii) *Type B.* Non-fire-resistant "high" temperature hose assemblies which are intended to be used in locations outside fire zones where the fluid and ambient air temperatures do not exceed 450° F.

(iii) *Type C.* Fire-resistant "normal" temperature hose assemblies which are intended to be used in locations within fire zones where the fluid and ambient air temperatures do not exceed 250° F.

(iv) *Type D.* Fire-resistant "high" temperature hose assemblies which are intended to be used in locations within fire zones where the fluid and ambient air temperatures do not exceed 450° F.

(*a*) New models shall comply with the following minimum requirements. Three samples of each size shall be tested.

(*1*) Type A hose assemblies shall comply with the "3.3 Performance" section requirements of Specification MIL–H–8795A, dated July 25, 1958,[2] except as noted in subparagraph (2) of this paragraph. The hose incorporated therein shall conform to "3.6 Performance" section of Specification MIL–H–8794A, dated July 25, 1958,[2] except as noted in subparagraph (2) of this paragraph.

(*2*) Type B hose assemblies shall comply with the "3.6 Performance" section of Specification MIL–H–25579 (USAF) Amendment 2, dated March 19, 1959,[2] except as noted in subparagraph (2) of this paragraph.

(*3*) Type C hose assemblies shall comply with the above requirements for Type A hose assemblies and in addition shall pass the fire test described in subparagraph (3) of this paragraph.

(*4*) Type D hose assemblies shall comply with the above requirements for Type B hose assemblies and in addition shall pass the fire test described in subparagraph (3) of this paragraph.

(2) *Exceptions.* (i) Type A hose assemblies are not required to comply with sections 3.6.1.2 and 3.6.2.7 of Specification MIL–H–8794A. The operating and proof pressures referred to in Table 1 of that specification shall be those values listed in the "Fuel" column thereof. The burst pressures to be utilized shall be twice the proof pressures listed in the "Fuel" column in Table 1. The foregoing shall likewise apply in showing compliance with Specification MIL–H–8795A.

(ii) Type B hose assemblies are not required to comply with sections 3.6.5, 3.6.7 and 3.6.10 of Specification MIL–H–25579 (USAF). The burst pressures to be utilized shall be twice the proof pressures listed in Table 1 of that specification.

(3) *Fire test procedure and requirements.* A description of the standard fire test apparatus and its use is in FAA "Standard Fire Test Apparatus and Procedure" (Power Plant Engineering Report No. 3).[3] The use of a protective sleeve over the hose and/or end fittings is permitted to facilitate compliance with the fire test requirements. Sleeves or covers shall be secured to the hose assembly so that fire-resistant properties will be maintained.

(i) Oil pressure during fire test: Type C hose assemblies—the operating pressure specified in the "Fuel" column of Table 1 in Specification MIL–H–8795A. Type D hose assemblies—the operating pressure specified in Table 1 of Specification MIL–H–25579 (USAF).

(ii) Oil flow rate: 5×(Hose assembly actual ID in inches)^2. Example: Flow rate for −16 size=5×($\frac{1}{8}$)^2=3.8 GPM).

(iii) Duration: 5 minutes.

(iv) Criteria for acceptability: The hose assembly shall be considered acceptable if it complies with these test conditions without evidence of leakage.

(b) *Marking.* The markings required are specified in § 37.7 with the following exceptions:

(1) Trademark may be used in lieu of name, and manufacturer's address is not required.

(2) In lieu of the weight specified in paragraph (c) of § 37.7, the size of the hose assembly shall be shown.

(3) The applicable TSO number shall be followed immediately by the appropriate type designation, as TSO–C53–Type B. Where a protective sleeve is employed, the information should be legibly stamped on a steel (or other fireproof) band securely affixed to the hose assembly.

(c) *Data requirements.* The following information and data should be submitted with the letter of conformance.

(1) One copy of drawing showing the hose assembly construction, materials, part numbers and the recommended maximum and minimum fluid and ambient temperatures for continuous operation. The following data should be shown for each size: Proof and burst pressure (minimum), Operating pressure (maximum), Bending radius (minimum).

(2) One copy of any installation instructions and/or other pertinent information (may be shown on drawing).

§ 37.153 Stall warning instruments—TSO–C54.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for stall warning instruments which specifically are required to be approved for use on civil aircraft of the United States. New models of stall warning instruments manufactured for installation on civil aircraft on or after the effective date of this section shall meet the standards set forth in SAE Aeronautical Standard AS 403A, "Stall Warning Instrument," revised July 15, 1958,[1] with exceptions, and additions to the standards listed in subparagraph (2) of this paragraph.

(2) *Exceptions and additions.* (i) The following specifically numbered parts in AS 403A do not concern minimum performance and therefore are not essential to compliance with this section: Parts 3.1; 3.1.1; 3.1.2; 3.2 (a), (b), (c), (d), (e), and (f).

(ii) In lieu of Part 7 of AS 403A, it is a requirement that stall warning instruments covered by this section be capable of successfully passing the tests in Parts 7.1 through 7.7 of AS 403A.

(iii) Thermal shock: This test shall apply to any hermetically sealed component. The component shall be subjected to four cycles of exposure to water at 85°±2° C. and 5°±2° C. without evidence of moisture penetration or damage to coating or enclosure. Each cycle of the test shall consist of immersing the component in water at 85°±2° C. for a period of 30 minutes, and then within 5 seconds of removal from the bath, the component shall be immersed for a period of 30 minutes in the other bath maintained at 5°±2° C. This cycle shall be repeated continuously, one cycle following the other until four cycles have been completed. Following this test, the indicator shall be subjected to the Sealing test specified in subdivision (iv) of this subparagraph. No indicator leakage shall occur as a result of this test.

(iv) Sealing: This performance test shall apply to each hermetically sealed instrument. The instrument shall be immersed in a suitable liquid, such as water. The absolute pressure of the air above the liquid shall then be reduced to approximately 1 inch of mercury (Hg) and maintained for 1 minute, or until air bubbles cease to be given off by the liquid, whichever is longer. The absolute pressure shall then be increased by 2½ inches Hg. Any bubbles coming from within the indicator case shall be considered as leakage and shall be cause for rejection. Bubbles which are the result of entrapped air in the various exterior parts of the case shall not be considered as leakage. Other test methods which provide evidence equal to the immersion test of the integrity of the instrument's seals may be used. If the instrument incorporates nonhermetically sealed appurtenances, such as a case extension, these appurtenances may be removed prior to the sealing test.

(v) Power malfunction indication: Means shall be incorporated in the instrument to indicate when adequate power (voltage and/or current) is not being made available to all phases required for the proper operation of the

[1] Hose assemblies for use in propeller feathering lines are covered in TSO–C42.

[2] Copies of these specifications may be obtained by addressing a request to: Commander, USAF, Administrative Services Office, Attention EWBFE, Wright-Patterson Air Force Base, Ohio.

[3] Copies of Power Plant Engineering Report No. 3 may be obtained by addressing a request to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[1] Copies may be obtained from the Society of Automotive Engineers, 485 Lexington Avenue, New York 17, N.Y.

instrument. The indicating means shall indicate a failure or a malfunction in a positive manner, and be readily discernible under any lighting condition normally encountered in aircraft.

(b) *Marking.* In addition to the markings specified in § 37.7 range or rating (voltage) shall be shown.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product.

(3) Six copies each, except where noted, of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and instrument limitations.

(ii) Drawings of major components or photographs showing exploded views of instruments.

(iii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications, including any limitations, restrictions, or other conditions pertinent to installation.

(iv) One copy of the manufacturer's test report.

(d) *Quality control.* Each stall warning instrument shall be produced under a quality control system, established by the manufacturer, which will assure that each stall warning instrument is in conformity with the requirements of this section and is in condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this standard.

(e) *Previously approved equipment.* Stall warning instruments approved prior to the effective date of this section may continue to be manufactured under the provisions of their original approval.

§ 37.154 Fuel and oil quantity instruments (for reciprocating engine aircraft)—TSO–C55.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for fuel and oil quantity instruments (for reciprocating engine aircraft) which specifically are required to be approved for use on civil aircraft of the United States. New models of fuel and oil quantity instruments (for reciprocating engine aircraft) manufactured for installation on civil aircraft on or after April 1, 1959, shall meet the standards set forth in SAE Aeronautical Standard AS–405B, "Fuel and Oil Quantity Instruments," dated July 15, 1958,[1] with the exceptions listed in subparagraph (2) of this paragraph. Fuel and oil quantity instruments (for reciprocating engine aircraft) approved prior to April 1, 1959, may continue to be manufactured under the provisions of their original approval.

(2) *Exceptions.* (i) Conformance with the following sections is not required: 3.1; 3.1.1; 3.1.2; 3.2; 4.2.1.

(ii) Substitute the following for section 7.: "Performance tests: The following tests, in addition to any others deemed necessary by the manufacturer, shall be the basis for determining compliance with the performance requirements of this standard."

(b) *Marking.* In lieu of the weight specified in § 37.7(c), the following shall be shown:

(1) Instrument type (I or II),

(2) Range,

(3) Rating if applicable, i.e., electrical, vacuum, etc.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.155 Engine-driven direct current generators for aircraft certificated under Part 25—TSO–C56.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for engine-driven direct current generators which are to be used on civil aircraft of the United States certificated under Part 25. New models of engine-driven direct current generators manufactured for use on civil aircraft on or after April 1, 1959, shall meet the minimum performance standards as set forth below.

(i) *Test conditions.* Unless otherwise specified in this section, each test shall be made under the following conditions:

(*a*) *Mounting.* The generator shall be mounted on a suitable drive stand capable of driving the generator continuously within the speed range. The longitudinal axis of the generator shall be horizontal.

(*b*) *Excitation.* The generator shall be self-excited and controlled by a suitable variable resistance in series with the shunt field. The shunt field current shall not be considered as part of the generator load current.

(*c*) *Ambient temperature.* The ambient temperature shall be 95°±9° F.

(*d*) *Altitude.* The tests shall be run at approximately sea level altitude.

(*e*) *Location of load.* The load for the generator shall be so located that it will not appreciably affect the ambient temperature or the blast-cooling air temperature (if blast cooling is used).

(*f*) *Warm-up.* Prior to the test, the generator shall be operated at continuous operating speed delivering rated load at rated voltage for sufficient time to reach a substantially constant temperature.

(ii) *Test methods*—(*a*) *Manufacturer's declaration.* The manufacturer shall declare the following generator ratings and characteristics. (These values are the "rated" and "declared" quantities referred to in subsequent paragraphs describing test methods.)

(*1*) Rated terminal voltage.

(*2*) Rated load current.

(*3*) Minimum blast cooling requirement (if blast cooling is to be used).

(*4*) Rated speed range.

(*5*) Continuous operating speed.

(*6*) Minimum speed for regulation.

(*7*) Maximum speed for regulation.

(*8*) Maximum overspeed.

(*9*) Minimum and maximum external field resistance in series with the shunt field.

(*10*) Maximum operating altitude.

(*11*) Allowable brush and commutator wear.

(*12*) Maximum static torque.

(*13*) Equalizing voltage (if provided) at rated load current.

(*14*) Overhang moment, with respect to the drive pad.

(*b*) *Maximum speed for regulation.* The generator shall not be given an operational warm-up prior to this test. The generator shall be operated at the maximum speed for regulation and it shall deliver the rated terminal voltage at no load with no more than the declared maximum external field resistance in series with the shunt field.

(*c*) *Heating, commutation, minimum speed and equalizing voltage.* Provision shall be made for determining speed, terminal voltage, load current, field voltage, field current and the resistance in series with the shunt field. The declared minimum blast cooling requirement shall be supplied to the generator air inlet. The temperature of the cooling air shall be determined by means of a suitable temperature indicating device whose responsive element is located within the cooling air duct. While the generator is cold, the resistance and temperature of the shunt field shall be determined for use in calculating the field temperature rise (average) during continuous operation at the declared full load current. The generator shall be considered to have reached a continuous operating condition when the rate of rise of the shunt field temperature, above the then existing ambient temperature, does not exceed 2° F. in five minutes.

(*1*) *Heating.* The ability of the generator to deliver the rated load current at rated terminal voltage at the declared continuous operating speed shall be demonstrated. Immediately following the above run, the ability of the generator to deliver rated load current at rated terminal voltage for both the minimum speed for regulation and the maximum rated speed shall be demonstrated. Following this test, the generator shall demonstrate its ability to deliver rated load current at minimum rated speed, at a terminal voltage not less than 85 percent of the rated terminal voltage.

(*2*) *Commutation.* Immediately following the above heat runs, with the generator hot, the commutation of the generator shall be observed over the rated speed range for no load, half load, and rated load current. There shall be no more than fine, pin-point sparking of the brushes during this test.

(*3*) *Minimum speed.* At no time during the above heat runs shall the re-

[1] Copies may be obtained from the Society of Automotive Engineers, Inc., 485 Lexington Avenue, New York 17, New York.

quired resistance external to the shunt field be less than the declared minimum external field resistance.

(4) *Equalizing voltage.* Where an equalizing voltage is provided, it shall be within 5 percent of the declared equalizing voltage when the generator is stabilized in temperature and operating at rated load current at the declared continuous operating speed. The declared minimum blast cooling requirement shall be supplied at the generator air inlet.

(d) *Overspeed.* This test shall be made while the generator is hot as a result of testing and shall be made at no load with the field circuit open and at the declared maximum overspeed. The generator shall demonstrate its ability to operate under overspeed conditions for five minutes without mechanical failure, throwing of varnish, or impairing electrical performance.

(e) *Dielectric strength.* While the generator is hot as a result of testing, it shall withstand the following test voltage at commercial frequency, applied between windings, and between each winding and frame, for the specified time:

500 volts (rms) for one minute, or
600 volts (rms) for one second.

(f) *Ripple voltage.* Ripple voltage shall be determined by means of a peak reading vacuum tube voltmeter in series with a 4.0 microfarad capacitor. The generator shall be operated at 120 percent of minimum rated speed at 50 percent of rated load current, with a manually operated field rheostat, and without a battery in parallel. Peak voltage readings shall be taken with the voltmeter successively connected for each of the two polarities and the higher of the two readings shall not exceed 1.5 volts.

(g) *Humidity.* The relative humidity for this test shall be 95±5 percent. Subject equipment to test condition at 160°±4° F. for six hours. The heat source shall be turned off for 16 hours without changing total moisture content in the test space. During the 16-hour period, the temperature shall drop to 100° F. or less. The test shall be repeated ten times, allowing a two-hour period to stabilize to 160° F. Check for corrosion, distortion, and general deterioration. At the end of this test, the generator shall deliver rated load current at the declared continuous operating speed for two hours.

(h) *Flexible drive.* The flexible drive test shall be conducted on a universal joint torsional vibration machine which has a fly-wheel of at least 20 times the amount of inertia of the generator armature being tested. Testing procedure shall be as follows:

(1) 100 hours with ±1 degree torsional amplitude input to drive shaft at critical frequencies. The flexible drive shall limit the armature amplitude within ±5 degrees.

(2) 50 hours with ±2 degrees torsional amplitude input to drive shaft at frequencies of 20 to 24 cps. The flexible drive shall limit the armature amplitude within ±7 degrees.

(3) 15 minutes with ±2 degrees torsional amplitude input to drive shaft at critical frequencies. The flexible drive shall limit the armature amplitude within ±7 degrees.

(i) *Performance of commutator, bearings, and brushes.* The generator shall be operated under the following conditions. New brushes may be installed for this test.

(1) 100 hours at the declared continuous operating speed, at rated load current with the test conditions specified in subdivision (i) of this subparagraph.

(2) Four continuous cycles consisting of the following: 24 hours at the declared continuous operating speed and rated load current, at altitude conditions approximating 115 percent of the declared maximum operating altitude. The ambient temperature (and cooling air temperature, if blast cooling is used) shall be related to the test altitude by the formula $T=104-(0.005)h$ (where T is the temperature in degrees F. and h is the test altitude in feet), except that the lower temperature limit, regardless of altitude, shall be −67° F.; at least one hour at the declared continuous operating speed and rated load current, with the test conditions specified in subdivision (i) of this subparagraph. The time interval between successive 24-hour runs at altitude shall not exceed two hours. The rate of change of altitude need not be controlled, but the temperature at any transition altitude shall be within 18° F. of that obtained from the temperature-altitude formula above.

(3) Two continuous cycles consisting of the following: Nine hours at the declared continuous operating speed and 75 percent rated load current, at altitude conditions approximating 115 percent of the declared maximum operating altitude. The ambient temperature (and cooling air temperature, if blast cooling is used) shall be related to the test altitude by the formula $T=160-(0.004)h$ (where T is the temperature in degrees F. and h is the test altitude in feet); at least one hour at the declared continuous operating speed and 75 percent rated load current, with the test conditions specified in subdivision (i) of this subparagraph. The time interval prior to each nine-hour run at altitude shall not exceed two hours. The rate of change of altitude need not be controlled, but the temperature at any transition altitude shall be within 18° F. of that obtained from the temperature-altitude formula above.

(4) Evaluation of results of tests (1), (2), and (3) above: Cumulative brush or commutator wear shall not exceed 20 percent of the declared allowable wear after tests (1) and (2) and shall not exceed 4 percent of the declared allowable wear after test (3). No mechanical failure or electrical malfunction shall occur during this test.

(j) *Drive shear section.* Sufficient torsional force shall be applied to the drive shear section (or to the armature shaft itself, if no shear section is provided) to result in its failure. The necessary torque indicating instrumentation shall be provided. Failure shall occur at an applied torque of less than the declared maximum static torque.

(b) *Marking.* In addition to the marking required in § 37.7, the nameplate shall contain the following information:

(1) Rated terminal voltage.
(2) Rated load current.
(3) Rated speed range.

(c) *Data requirements.* The manufacturer shall submit a tabulation of the declared generator ratings and characteristics (called for in paragraph (a) (1) (ii) (a) of this section to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

§ 37.156 Aircraft headsets and speakers (for air carrier aircraft)—TSO–C57.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for aircraft headsets and speakers which are to be used on civil aircraft of the United States engaged in air carrier operations. New models of aircraft headsets and speakers manufactured for use on civil aircraft on or after August 14, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Aircraft Headsets and Speakers" (Paper 257–58/DO–90 dated November 18, 1958).[1] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60[1] which is incorporated by reference in and thus is a part of Paper 257–58/DO–90 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. Exceptions to these standards are covered in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only aircraft headsets and speakers which meet the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, are eligible under this section.

(ii) Radio Technical Commission for Aeronautics' Paper 257–58/DO–90 dated November 18, 1958, paragraph 2.3, Pilot Operated Gain Control. The provisions of this paragraph are applicable only to attenuators which are a part of the headset assembly.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions as out-

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 257–58/DO–90, 25 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

lined in Procedure B of this same paper, as amended, shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Aircraft headsets and speakers approved prior to August 14, 1959, may continue to be manufactured under the provisions of their original approval.

§ 37.157 Aircraft microphones (for air carrier aircraft)—TSO–C58.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for aircraft microphones which are to be used on civil aircraft of the United States engaged in air carrier operations. New models of aircraft microphones manufactured for use on civil aircraft on or after August 14, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Aircraft Microphones" (Paper 258–58/DO–91 dated November 18, 1958).[2] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [2] which is incorporated by reference in and thus is a part of Paper 258–58/DO–91 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedure A, B, and C. Only aircraft microphones which meet the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, are eligible under this section.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions as outlined in Procedure B of this same paper, as amended, shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Aircraft microphones approved prior to August 14, 1959, may continue to be manufactured under the provisions of their original approval.

§ 37.158 High frequency (HF) radio communication transmitting equipment operating within the radio frequency range of 1.5–30 megacycles (for air carrier aircraft)—TSO–C31b.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for airborne high frequency radio communication transmitting equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne HF radio communication transmitting equipment manufactured for use on civil air carrier aircraft on or after September 1, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Radio Communication Transmitting Equipment Operating Within the Radio-Frequency Range of 1.5–30 Megacycles," as amended (Paper 14–53/DO–48 dated January 26, 1953, and amendment, Paper 247–58/EC–357, dated November 13, 1958).[1] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [1] which is incorporated by reference in and thus is a part of Paper 14–53/DO–48 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne high frequency radio communication transmitting equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne high frequency radio communication transmitting equipment approved prior to September 1, 1959, may continue to be manufactured under the provisions of its original approval.

§ 37.159 High frequency (HF) radio communication receiving equipment operating within the radio frequency range of 1.5–30 megacycles (for air carrier aircraft)—TSO–C32b.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for airborne high frequency radio communication receiving equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne HF radio communication receiving equipment manufactured for use on civil air carrier aircraft on or after September 1, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards Airborne Radio Communication Receiving Equipment Operating Within the Radio Frequency Range of 1.5–30 Megacycles," as amended (Paper 15–53/DO–49 dated January 26, 1953, and amendment, Paper 248–58/EC–358 dated November 13, 1958).[2] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [2] which is incorporated by reference in and thus is a part of Paper 15–53/DO–49 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne high frequency radio communication receiving equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over

[2] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 258–58/DO–91, 25 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

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[2] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 15–53/DO–49, 25 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne high frequency radio communication receiving equipment approved prior to September 1, 1959, may continue to be manufactured under the provisions of its original approval.

§ 37.160 Airborne ILS glide slope receiving equipment (for air carrier aircraft)—TSO–C34b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne ILS glide slope receiving equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne ILS glide slope receiving equipment manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the minimum performance standards contained in Federal Aviation Agency Standard entitled "Minimum Performance Standards for Airborne ILS Glide Slope Receiving Equipment",[1] dated May 9, 1962, and Radio Technical Commission for Aeronautics Paper 120–61/DO–108[2] entitled, "Environmental Test Procedures Airborne Electronic Equipment", dated July 13, 1961, with the exceptions to these standards as listed in subparagraph (2) of the paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D.

(ii) Humidity Test—Categories A or B.

(iii) Vibration Test—Categories A, B, C, D, E, or F.

(iv) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B.

(v) Radio-Frequency Susceptibility Test—Category A.

(vi) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7(d), the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These should be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations shall appear on the nameplate in the following order so that they may be readily identified:

(i) Temperature—Altitude Test Category.

(ii) Humidity Test Category.

(iii) Vibration Test Category.

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category.

(v) Radio-Frequency Susceptibility Test Category.

(vi) Emission of Spurious Radio-Frequency Energy Test Category.

(vii) Explosion Test.

(2) Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X". A typical nameplate identification would be as follows: Env. Cat. DABAAAX.

(3) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env. Cat. $\frac{A}{D}$ABAAAX.

(4) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturers' name, TSO number, and the environmental categories over which the equipment component is designed to operate.

(c) *Data requirements.* Six copies each of the following, except where noted, together with the statement of conformance, shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(1) Manufacturer's operating instructions and equipment limitations.

(2) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(3) One copy of the manufacturer's test report.

§ 37.161 Airborne ILS localizer receiving equipment operating within the radio-frequency range of 108–112 megacycles—TSO–C36b.

(a) *Applicability.* (1) Minimum performance standards are hereby established for airborne ILS localizer receiving equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne ILS localizer receiving equipment manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the minimum performance standards contained in Federal Aviation Agency Standard entitled "Minimum Performance Standards for Airborne ILS Localizer Receiving Equipment",[1] dated June 15, 1962, and Radio Technical Commission for Aeronautics Paper 120–61/DO–108 entitled "Enviromental Test Procedures Airborne Electronic Equipment",[2] dated July 13, 1961, with the exceptions to these standards listed in subparagraph (2) of this paragraph.

(2) Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D;

(ii) Humidity Test—Categories A or B;

(iii) Vibration Test—Categories A, B, C, D, E, or F;

(iv) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B;

(v) Radio - Frequency Susceptibility Test—Category A; and

(vi) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7(d), the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These should be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations shall appear on the nameplate in the following order so that they may be readily identified:

(i) Temperature-Altitude Test Category;

(ii) Humidity Test Category;

(iii) Vibration Test Category;

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category;

(v) Radio-Frequency Susceptibility Test Category;

(vi) Emission of Spurious Radio-Frequency Energy Test Category; and

(vii) Explosion Test.

(2) Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X". A typical nameplate identifica-

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[2] Copies of this paper may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006, at a cost of 75 cents per copy.

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[2] Copies of this paper may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006, at a cost of 75 cents per copy.

tion would be as follows: Env. Cat. DABAAAX.

(3) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env Cat. $\frac{A}{D}$ABAAAX.

(4) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

(c) *Data requirements.* In accordance with the provisions of § 37.5 the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of the manufacturer's operating instructions and equipment limitations;

(2) Six copies of the installation procedures with applicable schematic drawings, wiring diagrams, and specifications, indicating any limitations, restrictions, or other conditions pertinent to installation; and

(3) One copy of the manufacturer's test report.

§ 37.162 VHF radio communications transmitting equipment operating within the radio-frequency range of 118–136 megacycles—TSO–C37b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne VHF radio communications transmitting equipment operating within the radio-frequency range of 118–136 megacycles which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne VHF radio communications transmitting equipment manufactured for use on air carrier aircraft on or after the effective date of this section shall meet the standards as set forth in Radio Technical Commission for Aeronautics Papers 134–61/DO–110 [1] dated July 13, 1961, and 120–61/DO–108 [1] dated July 13, 1961, with the exceptions to these standards listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Only VHF transmitters which are designed for selection of frequency channels on discrete frequencies spaced 50 kc. apart or closer are eligible under this section.

(ii) Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this section:

(*a*) Temperature-Altitude Test—Categories A, B, C, or D;

(*b*) Humidity Test—Categories A or B;

(*c*) Vibration Test—Categories A, B, C, D, E, or F;

(*d*) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B;

(*e*) Radio-Frequency Susceptibility Test—Category A; and

(*f*) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7 the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These shall be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations shall appear on the nameplate in the following order, so that they may be readily identified:

(i) Temperature-Altitude Test Category;

(ii) Humidity Test Category;

(iii) Vibration Test Category;

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category;

(v) Radio-Frequency Susceptibility Test Category;

(vi) Emission of Spurious Radio-Frequency Energy Test Category; and

(vii) Explosion Test.

Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirements shall be identified by the letter "X".

(2) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

(3) The equipment shall be marked to indicate the distance range over which it is designed to operate. Three classes of equipment have been established in RTCA Paper 134–61/DO–110 based upon maximum radio line-of-sight distances as follows:

Class I: 200 nautical miles—Not less than 16 watts output.

Class II: 100 nautical miles—Not less than 4 watts output.

Class III: 50 nautical miles—Not less than 1 watt output.

NOTE: A typical nameplate identification would be as follows: Env. Cat. DABAAAX Class I.

(4) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env. Cat. $\frac{A}{D}$ABAAAX Class I.

(c) *Data requirements.* Six copies each of the following, except where noted, shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(1) Manufacturer's operating instructions and equipment limitations.

(2) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(3) One copy of the manufacturer's test report.

§ 37.163 VHF radio communications receiving equipment operating within the radio-frequency range of 118–136 megacycles—TSO–C38b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for VHF radio communications receiving equipment operating within the radio-frequency range of 118–136 megacycles which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne VHF radio comunications receiving equipment manufactured for use on air carrier aircraft on or after the effective date of this section shall meet the standards as set forth in Radio Technical Commission for Aeronautics Papers 130–61/DO–108 [2] dated July 13, 1961, and 120–61/DO–108 [2] dated July 13, 1961, with the exceptions to these standards listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics Paper 130–61/DO–109, Paragraph 2.8, Selectivity, outlines selectivity requirements for receivers designed for selection of frequency channels in discrete increments of 50 kc. or 100 kc. Only VHF receivers which are designed for selection of frequency channels on discrete frequencies spaced 50 kc. apart or closer are eligible under this section.

(ii) Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(*a*) Temperature-Altitude Test—Categories A, B, C, or D;

(*b*) Humidity Test—Categories A or B;

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 134–61/DO–110, 40 cents per copy; Paper 120–61/DO–108, 75 cents per copy.

[2] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 130–61/DO–109, 45 cents per copy; Paper 120–61/DO–108, 75 cents per copy.

(c) Vibration Test—Categories A, B, C, D, E, or F;

(d) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B;

(e) Radio-Frequency Susceptibility Test—Category A;

(f) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7, the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These shall be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right the category designations shall appear on the nameplate in the following order, so that they may be readily identified:

(i) Temperature-Altitude Test Category;

(ii) Humidity Test Category;

(iii) Vibration Test Category;

(iv) Audio-Frequency Magnetic Field Susceptibility Test Category;

(v) Radio-Frequency Susceptibility Test Category;

(vi) Emission of Spurious Radio-Frequency Energy Test Category, and

(vii) Explosion Test.

Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X".

(2) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

NOTE: A typical nameplate identification would be as follows: Env. Cat. DABAAAX.

(3) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env. Cat. $\frac{A}{D}$ABAAAX.

(c) *Data requirements.* Six copies each of the following, except where noted, shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(1) Manufacturer's operating instructions and equipment limitations.

(2) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(3) One copy of the manufacturer's test report.

§ 37.164 Airborne selective calling equipment (for air carrier aircraft)—TSO–C59.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne selective calling equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne selective calling equipment manufactured for use on civil air carrier aircraft on or after July 31, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Selective Calling Equipment," Paper 25–59/DO–93 dated February 10, 1959.[1] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [1] which is incorporated by reference in and thus is a part of Paper 25–59/DO–93 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exception.* Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne selective calling equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne selective calling equipment approved prior to July 31, 1959, may continue to be manufactured under the provisions of its original approval.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 25–59/DO–93, 30 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

§ 37.165 Airborne Loran A receiving equipment operating within the radio-frequency range of 1800–2000 kilocycles (for air carrier aircraft)—TSO–C60.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne Loran A receiving equipment operating within the radio-frequency range of 1800–2000 kilocycles which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne Loran A receiving equipment manufactured for use on civil air carrier aircraft on or after July 31, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Loran A Receiving Equipment Operating Within the Radio-Frequency Range of 1800–2000 Kilocycles" (Paper 226–58/DO–92 [2] dated November 18, 1958). Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [2] which is incorporated by reference in and thus is a part of Paper 226–58/DO–92 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne Loran A receiving equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used.

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 5–50 cps.
Maximum acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration require-

[2] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 226–58/DO–92, 30 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

ments specified in subdivision (ii) of this subparagraph, and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such as CAT. A—I.P.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne Loran A receiving equipment approved prior to July 31, 1959, may continue to be manufactured under the provisions of its original approval.

§ 37.166 Portable aircraft emergency communications equipment (for air carrier aircraft)—TSO–C61a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for portable aircraft emergency communications equipment which specifically is required to be carried on civil aircraft of the United States engaged in particular air carrier operations. The radio frequencies to be utilized by such equipment shall be selected from 500 kc., 8364 kc., or 121.5 mc. A single frequency or a combination of the above frequencies may be used. New models of portable aircraft emergency communications equipment manufactured for use on air carrier aircraft on or after the effective date of this section shall meet the standards in the following Radio Technical Commission for Aeronautics Papers:

49–59/DO–95[1] dated March 10, 1959, for 500 or 8364 kc. equipment; 26–59/DO–94[1] dated February 10, 1959, for 121.5 mc. equipment; 100–54/DO–60[1] dated April 13, 1954, Environmental Test Procedures; 256–58/EC–366[1] dated November 13, 1958, Amendment to 100–54/DO–60.

Exceptions, additions, and substitutions to these standards are listed in subparagraph (2) of this paragraph.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 49–59/DO–95, 30 cents per copy; Paper 26–59/DO–94, 30 cents per copy; Paper 100–54/DO–60, with Amendment Paper 256–58/EC–366, 20 cents per copy.

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics Paper 100–54/DO–60, and Amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) (*a*) The vibration values specified below may be used in lieu of those specified in Paper 100–54/DO–60, as amended. If these values are used, no external shock mounting shall be used during the conduct of the test.

(*b*) Constant total excursion of 0.020'' from 10 to 55 c.p.s. with a maximum acceleration of 3g.

(iii) Paper 26–59/DO–94, Paragraph 2.1, Operating Life. The capacity of the power supply shall be sufficient to provide continuous operation for at least 24 hours under the condition of maximum power consumption. At the end of the 24-hour period, the radiated power output shall not have deteriorated by more than 3 db from that specified in paragraph 2.2.1, as amended by subdivision (iv) of this subparagraph. These values also apply to the test procedures contained in Paragraph T–1, Appendix A.

(iv) Paper 26–59/DO–94, Paragraph 2.2.1, Radiated Power. The effective radiated power (ERP) from the antenna shall be at least 225 milliwatts. This value also applies to the test procedures contained in Paragraph T–2, Appendix A.

(v) Paper 26–59/DO–94, Paragraph 2.2.2, Modulation Capability. The transmitter output carrier shall be capable of being tone amplitude modulated a minimum of 90 percent downward and 10 percent upward by an audiofrequency signal between 900 and 1600 c.p.s. and by a 1000 c.p.s. signal applied to the microphone, if voice modulation is provided.

(vi) Paper 49–59/DO–95, Paragraph 2.1, Operating Life. The capacity of the power supply shall be sufficient to provide continuous operation for at least 24 hours under the condition of maximum power consumption. At the end of the 24-hour period, the radiated power output shall not have deteriorated by more than 3 db from that specified in paragraph 2.2.1. These values also apply to the test procedures contained in Paragraph T–1, Appendix A.

(b) *Marking.* In addition to the markings specified in § 37.7, equipment which has been designed to operate over the environmental conditions outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Portable aircraft emergency communications equipment shall be produced under a quality control system, established by the manufacturer, which will assure that each equipment is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Portable aircraft emergency communications equipment approved prior to the effective date of this section may continue to be manufactured under the provisions of its original approval.

§ 37.167 Aircraft tires—TSO–C62b.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft tires, excluding tailwheel tires, which are to be used on civil aircraft of the United States. New design tires, manufactured on or after the effective date of this section, which are to be used on civil aircraft of the United States shall meet the standards specified in Federal Aviation Agency Standard, "Aircraft Tires" dated August 1, 1962.[1]

(b) *Marking.* In lieu of the marking requirements of § 37.7(d), aircraft tires shall be legibly and permanently marked with the following information:

(1) Brand name or name of the manufacturer responsible for compliance and the country of manufacture if outside the United States.

(2) The size, ply rating, and serial number.

(3) The qualification test speed and skid depth when the test speed is greater than 160 m.p.h., also, the word "reinforced" if applicable.

(4) Applicable Technical Standard Order (TSO) number.

(c) *Data requirements.* Six copies each of the following shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

which the manufacturer is located: tire size, static and dynamic load rating, ply rating, rated inflation pressure, outside diameter, skid depth, static unbalance, tire weight and a summary of the load-speed-time parameters used in the high speed dynamometer tests.

§ 37.168 Airborne weather radar equipment (for air carrier aircraft)—TSO–C63.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne weather radar equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne weather radar equipment manufactured for use on civil air carrier aircraft on or after December 1, 1959, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Weather and Ground Mapping Radar Operating Within the Radio Frequency Bands of 5250 to 5440 Mc and 9300 to 9500 Mc," Paper 148–59/DO–96 dated August 11, 1959.[1] Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 [1] which is incorporated by reference in and thus is a part of Paper 148–59/DO–96 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.[2]

(2) *Exception.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne weather radar equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for indicators designed exclusively for installation in the cockpit area of aircraft in lieu of those specified in Paper 148–59/DO–96.

Amplitude: 0.015" (0.03" total excursion).
Frequency: Variable 10–55 cps.
Maximum Acceleration: 3.0 g.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne weather radar equipment approved prior to the effective date of this section, may continue to be manufactured under the provisions of its original approval.

§ 37.169 Oxygen mask assembly, continuous flow, passenger (for air carrier aircraft)—TSO–C64.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for passenger oxygen mask assemblies which are to be approved for use on civil aircraft of the United States. New models of passenger oxygen mask assemblies manufactured for installation on civil aircraft on or after the effective date of this section shall meet the standards set forth in National Aircraft Standard, NAS 1179, "Oxygen Mask Assembly, Passenger", Revision 2, dated March 31, 1961,[1] with exceptions to the standard listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) The following specifically numbered subparagraphs in NAS 1179 are not concerned with minimum performance and, therefore, are not essential to compliance with this section: 2.0 in its entirety, 3.1.1, 3.1.2, 3.1.3.7, 3.1.12, 3.3.11 in its entirety, 4.2, 4.3.5, 5.3, 5.6, 5.7, and 5.8.

(ii) Conformance to "NAS Standard Part Number" and "NAS Standard Drawing" referred to throughout NAS 1179 is not required.

(iii) Paragraph 1.4 of NAS 1179 shall be revised and made a part of this standard, as follows:

1.4 *Coding of performance classification.* An eight digit performance classification number shall be assigned to each class of masks. This number shall correspond to the number assigned to the minimum performance curve established in paragraph 4.1.7.2.2 and shall appear in the part callout as the first dash number following specification No. NAS 1179. Each pair of digits, starting with the first pair to the left, shall represent the required minimum oxygen flow rates (NTPD) to the mask shown on curve "C" of Figure 2 at cabin pressure altitudes of 15,000, 25,000, 30,000 feet and the maximum approved altitude, respectively. Flow rates shall be to one decimal.

Typical example. NAS 1179–08233248–XX [2]

0.8—required minimum oxygen flow, LPM, NTPD, at 15,000 ft.
2.3—required minimum oxygen flow, LPM, NTPD, at 25,000 ft.
3.2—required minimum oxygen flow, LPM, NTPD, at 30,000 ft.
4.8—required minimum oxygen flow, LPM, NTPD, at maximum approved altitude.

(b) *Marking.* Each oxygen mask assembly shall be marked in accordance with § 37.7 except that the weight specified in § 37.7 may be omitted, and the following additional information shall be shown:

(1) The performance classification number.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his products. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following, shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable drawings and specifications, limitations, restrictions, or other conditions pertinent to installation. These limitations shall include the regulators which are capable of providing an oxygen partial pressure specified in the applicable Federal Aviation Regulations.

(iii) One copy of the manufacturer's test report.

(iv) Manufacturer's cleaning and sterilizing procedures.

(d) *Quality control.* Passenger oxygen masks shall be produced under a quality control system, established by the manufacturer, which will assure that each mask assembly is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and production tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Passenger oxygen masks approved prior to the effective date of this section may continue to be manufactured under the provisions of its original approval.

§ 37.170 Airborne doppler radar ground speed and/or drift angle measuring equipment (for air carrier aircraft)—TSO–C65.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne doppler radar ground speed and/or drift angle measuring equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne doppler radar ground speed and/or drift angle measuring equipment manufactured for use on civil air carrier aircraft on or after April 20, 1960, shall meet the minimum perform-

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 148–59/DO–96, 50 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

[2] In addition to the performance standards herein, airborne weather radar when installed in aircraft must meet installation requirements as well as functional and reliability flight tests of the pertinent airworthiness sections of the Federal Aviation Regulations.

[1] Copies of this standard may be obtained from the National Standards Association, Inc., 1315 Fourteenth Street NW., Washington 5, D.C.

[2] XX—Additional coding which the mask manufacturer may desire to add.

ance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Doppler Radar Ground Speed and/or Drift Angle Measuring Equipment" (Paper 166–59/DO–98[1] dated September 8, 1959). Radio Technical Commission for Aeronautics' Paper 100–54/DO–60[1] which is incorporated by reference in and thus is a part of Paper 166–59/DO–98 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.[2]

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne doppler radar ground speed and/or drift angle measuring equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used.

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 10–55 cps.
Maximum Acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration requirements specified in subdivision (ii) of this subparagraph, and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such as CAT. A—I.P.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne doppler radar ground speed and/or drift angle measuring equipment approved prior to April 20, 1960, may continue to be manufactured under the provisions of its original approval.

§ 37.171 Airborne distance measuring equipment (DMET) (for air carrier aircraft)—TSO–C66.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne distance measuring equipment (DMET) which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne distance measuring equipment (DMET) manufactured for use on civil air carrier aircraft on or after August 1, 1960, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards—Airborne Distance Measuring Equipment (DMET) Operating Within the Radio Frequency Range of 960–1215 Megacycles," (Paper 167–59/DO–99)[1] dated September 8, 1959. Radio Technical Commission for Aeronautics' Paper 100–54/DO–60[1] which is incorporated by reference in and thus is a part of Paper 167–59/DO–99 has been amended by Paper 256–58/EC–366 dated November 13, 1958. This amendment is also a part of the minimum performance standards. An exception to these standards is covered in subparagraph (2) of this paragraph.[2]

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60 and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne distance measuring equipment (DMET) which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used.

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 10–55 c.p.s.
Maximum Acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration requirements specified in subdivision (ii) of this subparagraph, and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(v) The following test condition may be substituted for that specified in paragraph 3.3, *Altitude Test,* of RTCA Paper 167–59/DO–99 for equipment intended for installation in heated and pressurized locations of aircraft:

With the equipment operating, adjust the atmospheric pressure to that equivalent to 40,000 plus-minus 5 percent feet at the ambient room temperature. Maintain this pressure for 10 minutes, then increase the pressure to that equivalent to 20,000 plus-minus 5 percent feet. Apply standard primary test voltage and frequency to the equipment and operate at maximum duty cycle for 15 minutes. Following this, with standard test voltage and frequency applied, and the equipment maintained at a pressure equivalent to 20,000 plus-minus 5 percent feet, the standards of paragraphs 2.1, 2.7, and 2.9 shall be met. During this test, the test chamber wall shall not be colder than −40° C.

(b) *Marking.* In addition to the information required in § 37.7, equipment which has been designed to operate over the environmental conditions as outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such as CAT. A—I.P.

(c) *Data requirements.* With the statement of conformance, one copy each of the manufacturer's operating instructions, schematic diagrams, and installation procedures shall be furnished the

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 166–59/DO–98, 40 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

[2] In addition to the performance standards herein, airborne doppler radar ground speed and/or drift angle measuring equipment when installed in aircraft must meet installation requirements as well as functional and reliability flight tests of the pertinent airworthiness sections of the Federal Aviation Regulations.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 167–59/DO–99, 50 cents per copy; Paper 100–54/DO–60, 20 cents per copy.

[2] In addition to the performance standards herein, airborne distance measuring equipment (DMET) when installed in aircraft must meet installation requirements as well as functional and reliability flight tests of the pertinent airworthiness sections of the Federal Aviation Regulations.

Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(d) *Previously approved equipment.* Airborne distance measuring equipment (DMET) approved prior to August 1, 1960, may continue to be manufactured under the provisions of its original approval.

§ 37.172 Aircraft wheels and brakes—TSO–C26a.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for aircraft wheels and brakes which are to be used on United States civil aircraft of the following categories:

Wheels—Transport and non-transport category airplanes.
Wheels—Transport and non-transport category rotorcraft.
Brakes—Transport category airplanes.

New models of wheels and brakes manufactured for installation on the above aircraft on or after June 1, 1961, shall meet the standards of Aeronautical Standard AS–227–C revised February 1, 1959,[1] with the exceptions in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Unless determined to be unnecessary, means shall be provided to minimize the probability of wheel and tire explosions which result from elevated brake temperatures.

(ii) Reference paragraph 5.4.7.1 of AS 227–C, Braking Capacity Calculations. The deceleration effects of propeller reverse pitch, drag parachutes and engine thrust reversers shall not be considered in determining brake kinetic energy ratings.

(iii) Taxi and Parking Test. At least one maximum weight landing test followed by a taxi roll, one taxi stop and parking test, which realistically simulate normal airplane operation, shall be conducted on the dynamometer. The taxi speed and distance shall be obtained from the airplane manufacturer.

(iv) Reference Table II of AS 227–C. Change 65 to 100 normal energy dynamometer stops in Method I and II.

(v) Reference Table II of AS 227–C. Change Note 2 to read as follows: One change of brake lining and attached discs is permissible in making the 100 normal energy stops. The remainder of the brake assembly parts shall withstand the 100 normal energy stops without failure or impairment of operation.

(vi) Reference Notes 3, 6, and 8 of Table II of AS 227–C. The most critical speeds used in the analysis shall include consideration for high ambient temperatures and airport elevations.

(vii) ARP 586 "Wheel Castings" dated March 1, 1960.[1]

(*a*) Add the following sentence at the end of paragraph 2. "Acceptance of the provisions contained herein is predicated on the use of a casting factor of not less than 1.33 on ultimate radial and side loads."

(*b*) Add the words "in accordance with paragraph 4.1 or 4.2" to the end of paragraph 4.3.

[1] Copies may be obtained from the Society of Automotive Engineers, Inc., 485 Lexington Avenue, New York 17, New York.

(c) Paragraph 5.2.2. Replace the words "When at least five consecutive acceptable quality castings have been produced" by the following: "When quality control history is established, * * *."

(*d*) Revise the end of paragraph 9.1 to read as follows "* * * in lieu of the procedures outlined above when authorized by the FAA."

(b) *Marking.* In lieu of the marking requirements of § 37.7, the aircraft wheels and brakes shall be legibly and permanently marked with the following information:

(1) Name of the manufacturer responsible for compliance.

(2) Serial number and drawing number.

(3) Applicable technical standard order (TSO) number.

(4) Size (this marking applies to wheels only). All stamped, etched or embossed markings shall be located in noncritical areas.

(c) *Data Requirements.* (1) The manufacturer shall maintain a current file of complete data regarding all his inspection work and tests required to determine compliance with the standards specified herein. (See paragraph (e) of this section.)

(2) Two copies of the following data shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Weight of brake assembly.

(ii) Maximum rejected takeoff kinetic energy in foot-pounds.

(iii) Normal kinetic energy in foot-pounds.

(iv) Maximum operating brake pressure.

(v) Applicable speed specified in Note 1 or Note 5 of Table II of AS–227–C.

(vi) Type of hydraulic fluid used.

(vii) Weight of wheel assembly.

(viii) Maximum static load rating in pounds.

(ix) Maximum limit load rating in pounds.

(d) *Previously Approved Equipment.* Wheels and brakes approved prior to the effective date of this section may continue to be manufactured under the provisions of their original approval.

(e) *Quality control.* Each wheel and brake shall be produced under a quality control system, established by the manufacturer, which will assure that each wheel and brake is in conformity with the requirements of this standard and is in an airworthy condition. This system shall be described in the data required under paragraph (c)(1) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this standard.

§ 37.173 Airborne radar altimeter equipment (for air carrier aircraft)—TSO–C67.

(a) *Applicability*—(1) *Minimium performance standards.* Minimum performance standards are hereby established for airborne radar altimeter equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne radar altimeter equipment manufactured for use on civil air carrier aircraft on or after November 15, 1960, shall meet the minimum performance standards as set forth in Radio Technical Commission for Aeronautics' Paper entitled "Minimum Performance Standards for Airborne Radar Altimeter Equipment Intended for Determining Pressure Gradients and Operating Within the Radio Frequency Band of 420–460 Megacycles," (Paper 73–60/DO–103)[1] dated April 12, 1960. Radio Technical Commission for Aeronautics' Paper 100–54/DO–60[1] which is incorporated by reference in and thus is a part of Paper 73–60/DO–103 has been amended by Paper 256–58/EC–366. This amendment is also a part of the minimum performance standards. Exceptions, additions, and substitutions to these standards are covered in subparagraph (2) of this paragraph.[2]

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics' Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne radar altimeter equipment which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used,

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 10–55 c.p.s.
Maximum Acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration requirements specified in subdivision (ii) of this subparagraph, and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 73–60/DO–103, 40 cents per copy; Paper 100–54/DO–60 with Amendment Paper 256–58/EC–366, 20 cents per copy.

[2] When airborne radar altimeter equipment is installed on civil aircraft, the installation must comply with the functional and installation requirements of Parts 23, 25, 27 or 29 of the Federal Aviation Regulations as applicable.

(b) *Marking.* (1) In addition to the markings specified in § 37.7, equipment which has been designed to operate over the environmental conditions outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such at CAT. A–I.P.

(2) Each major component of airborne radar altimeter equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name and TSO number.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following, shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Airborne radar altimeter equipment shall be produced under a quality control system, established by the manufacturer, which will assure that each equipment is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Airborne radar altimeter equipment approved prior to November 15, 1960, may continue to be manufactured under the provisions of its original approval.

§ 37.174 Airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data (for air carrier aircraft)—TSO–C68.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data manufactured for use on civil air carrier aircraft on or after January 16, 1961, shall meet the standards in Radio Technical Commission for Aeronautics Papers 101–60/DO–104[1] dated June 8, 1960; 100–54/DO–60[1] dated April 13, 1954; and 256–58/EC–366[1] dated November 13, 1958. Exceptions, additions, and substitutions to these standards are listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* (i) Radio Technical Commission for Aeronautics Paper 100–54/DO–60, and amendment Paper 256–58/EC–366 dated November 13, 1958, outline environmental test procedures for equipment designed to operate under three environmental test conditions as specified therein under Procedures A, B, and C. Only airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data which meets the operating requirements as outlined under Procedure A or Procedure B of Paper 100–54/DO–60, as amended, is eligible under this section.

(ii) The vibration values specified below may be used for equipment designed exclusively for installation on the instrument panel of aircraft in lieu of those specified in Paper 100–54/DO–60 as amended. No shock mounting shall be used during the conduct of this test if the vibration values specified below are used.

Amplitude: 0.01" (0.02" total excursion).
Frequency: Variable 10–55 c.p.s.
Maximum Acceleration: 1.5 g.

(iii) Equipment which is designed exclusively for installation on the instrument panel of aircraft need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(iv) Indicating instruments which are a part of the system, but which are not designed exclusively for installation on the instrument panel of aircraft, may also be tested to the vibration requirements specified in subdivision (ii) of this subparagraph, and need not be subjected to the shock requirements outlined in Paper 100–54/DO–60 as amended.

(b) *Marking.* (1) In addition to the markings specified in § 37.7, equipment which has been designed to operate over the environmental conditions outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended, shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment. Equipment which has been designed exclusively for installation on the instrument panel of aircraft and which meets only the amended vibration requirements outlined above shall be identified with the letters I.P. following the category of equipment, such as CAT. A—I.P.

(2) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name and TSO number.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data shall be produced under a quality control system, established by the manufacturer, which will assure that each equipment is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Airborne automatic dead reckoning computer equipment utilizing aircraft heading and doppler-obtained ground speed and drift angle data approved prior to January 16, 1961, may continue to be manufactured under the provisions of its original approval.

§ 37.175 Emergency evacuation slides—TSO–C69.

(a) *Applicability—(1) Minimum performance standards.* Minimum performance standards are hereby established for emergency evacuation slides which are required to be of an approved type to be eligible for use on civil aircraft of the United States. New models of emergency evacuation slides manufactured on or after August 15, 1961, shall meet the standards set forth in FAA standard "Emergency Evacuation Slides".[1] Emergency evacuation slides

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006. Paper 101–60/DO–104, 45 cents per copy; Paper 100–54/DO–60 with Amendment Paper 256–58/EC–366, 20 cents per copy.

[1] Copies of the FAA Standard may be obtained upon request addressed to: Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

approved prior to August 15, 1961, may continue to be manufactured under the provisions of their original approval.

(b) *Marking.* The slide shall be permanently marked in accordance with the marking provisions of § 37.7 except that (1) a part number which shall vary with length or any other change in the slide, (2) serial number, and (3) date of manufacture shall be included.

(c) *Data requirements.* (1) One copy each of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Packing instructions.

(ii) Operation instructions.

(iii) Assembly drawing.

(iv) Applicable limitations pertaining to installation of slides on aircraft. These limitations shall include the minimum and maximum stowage area temperatures and any other limitations which will prevent the slide from performing its intended function and from complying with the minimum performance standards under all reasonable foreseeable emergency conditions. The slide manufacturer shall also provide the purchaser with such limitations.

(2) The manufacturer shall maintain a current file of complete design data.

(3) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his evacuation slide. (See paragraph (d) of this section.)

(d) *Quality control.* Emergency evacuation slides shall be produced under a quality control system, established by the manufacturer, which will assure that each slide is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c) (3) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

§ 37.176 Liferafts (nonreversible)—TSO–C70.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for liferafts (nonreversible) which are required to be of an approved type to be eligible for use on civil aircraft of the United States. Nonreversible liferaft models manufactured on or after the effective date of this section shall meet the standards set forth in FAA Standard "Nonreversible Liferafts"[1] dated March 1, 1961.

(b) *Marking.* The raft shall be permanently marked in accordance with the marking provisions of § 37.7 except for the following:

(1) The serial number of the raft need not be included.

(2) Include the rated and the overload capacity of the raft.

(3) Include the type of raft, i.e., Type I or Type II.

(c) *Data requirements.* (1) One copy each of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located:

(i) Packing instructions.

(ii) Operation instructions.

(iii) Assembly drawing.

(iv) Applicable limitations pertaining to installation of rafts on aircraft. These limitations shall include the minimum and maximum stowage area temperatures and any other limitations which will prevent the raft from performing its intended function and from complying with the minimum performance standards under all reasonably foreseeable emergency conditions. The raft manufacturer shall also provide the purchaser with such limitations.

(2) The manufacturer shall maintain a current file of complete design data.

(3) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his liferafts. (See paragraph (d) of this section.)

(d) *Quality control.* Liferafts shall be produced under a quality control system, established by the manufacturer, which will assure that each raft is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c) (3) of this section. The Administrator shall be permitted to make such inspections and production tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

§ 37.177 Airborne static ("DC to DC") electrical power converter (for air carrier aircraft)—TSO–C71.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne static ("DC to DC") electrical power converter equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of such equipment manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the standards set forth in FAA Standard, "Airborne Static ('DC to DC') Electrical Power Converter (For Air Carrier Aircraft)" dated April 15, 1961,[2] and Radio Technical Commission for Aeronautics Paper 100–54/DO–60 as amended by Paper 256–58/EC–366 dated November 13, 1958.[2] Manufacturers of such equipment shall also comply with the requirements of paragraphs (b), (c), and (d) of this section for acceptance of their equipment under this section.

(b) *Marking.* In addition to the markings specified in § 37.7, equipment which has been designed to operate over the environmental conditions outlined in Procedure A of RTCA Paper 100–54/DO–60, as amended shall be marked as Category A equipment. Equipment which has been designed to operate over the environmental conditions outlined in Procedure B of this same paper shall be marked as Category B equipment.

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following shall be furnished to the Chief Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Airborne static ("DC to DC") electrical power converter equipment shall be produced under a quality control system, established by the manufacturer, which will assure that each equipment is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c) (2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Airborne static ("DC to DC") electrical power converter equipment approved prior to the effective date of this section may continue to be manufactured under the provisions of its original approval.

§ 37.178 Individual flotation devices—TSO–C72.

(a) *Applicability.* Minimum performance standards are hereby established for individual flotation devices for use on civil aircraft of the United States. New models of individual flotation devices manufactured on or after the effective date of this section shall meet the standards specified in the Federal Aviation Agency Standard, "Individual Flotation Devices",[1] dated July 15, 1963.

(b) *Marking.* The markings specified in § 37.7(d) shall be shown except that the weight need not be included.

(c) *Data requirements.* In addition to the data specified in § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[2] Copies of the FAA Standard may be obtained upon request addressed to: Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553. Copies of RTCA Paper 100–54/DO–60 may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington, D.C., 20006, for 20 cents per copy.

manufacturer is located, the following technical data:

(1) Six copies of the descriptive information on the device;

(2) Six copies of the manufacturers' equipment operating instructions and limitations;

(3) Six copies of the applicable installation instructions indicating any restrictions or other conditions pertinent to installation;

(4) One copy of the manufacturers' test report; and

(5) One copy of the manufacturers' special cleaning and maintenance instructions.

§ 37.179 Static electrical power inverter—TSO–C73.

(a) *Applicability.* Minimum performance standards are hereby established for airborne static electrical power inverter equipment which is to be used on United States civil aircraft engaged in air carrier operations. New models of airborne static electrical power inverter equipment manufactured on or after the effective date of this section shall meet the standards specified in Federal Aviation Agency Standard, "Airborne Static Electrical Power Inverter", dated July 25, 1963.[1]

(b) *Marking.* In addition to the marking requirements of § 37.7(d), each static inverter shall be marked with the following:

(1) Rated terminal voltage, frequency, and the number of phases;

(2) Rated power in volt amperes;

(3) Output load power factor; and

(4) Maximum operating altitude.

(c) *Data requirements.* In addition to the data required by § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of the manufacturer's operating instruction and the equipment limitations. Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any restrictions or conditions pertinent to installation, and

(2) One copy of the manufacturer's test report.

§ 37.180 Airborne ATC transponder equipment (for air carrier aircraft—TSO–C74.

(a) *Applicability*—(1) *Minimum performance standards.* Minimum performance standards are hereby established for airborne ATC transponder equipment which is to be used on civil aircraft of the United States engaged in air carrier operations. New models of airborne ATC transponder equipment manufactured for use on civil air carrier aircraft on or after the effective date of this section shall meet the standards as set forth in Radio Technical Commission for Aeronautics Papers 181–61/DO–112 [1] dated December 14, 1961, and 120–61/DO–108 [1] dated July 13 1961, with the exceptions to these standards listed in subparagraph (2) of this paragraph.

(2) *Exceptions.* Radio Technical Commission for Aeronautics Paper 120–61/DO–108 outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under the following categories, as specified in RTCA Paper 120–61/DO–108, is eligible under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D.
(ii) Humidity Test—Categories A or B.
(iii) Vibration Test—Categories A, B, C, D, E, or F.
(iv) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B.
(v) Radio-Frequency Susceptibility Test—Category A.
(vi) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7, the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are seven environmental test procedures outlined in RTCA Paper 120–61/DO–108 which have categories established. These shall be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by seven letters which identify the categories designated in RTCA Paper 120–61/DO–108. Reading from left to right, the category designations shall appear on the nameplate in the following order so that they may be readily identified:

(i) Temperature-Altitude Test Category.
(ii) Humidity Test Category.
(iii) Vibration Test Category.
(iv) Audio-Frequency Magnetic Field Susceptibility Test Category.
(v) Radio-Frequency Susceptibility Test Category.
(vi) Emission of Spurious Radio-Frequency Energy Test Category.
(vii) Explosion Test.

Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X".

(2) Equipment which is intended for installation in aircraft which operate at altitudes above 15,000 feet shall be identified on the nameplate as Class I equipment.

(3) Equipment which is intended for installation in aircraft which operate at altitudes not exceeding 15,000 feet shall be identified on the nameplate as Class II equipment. In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner:

Env. Cat. $\frac{A}{D}$ABAAAX Class I.

(4) Each major component of equipment (antenna, power supply, etc.) shall be identified with at least the manufacturer's name, TSO number, and the environmental categories over which the equipment component is designed to operate.

NOTE: A typical nameplate identification would be as follows:

Env. Cat. DABAAAX
Class I

(c) *Data requirements.* (1) The manufacturer shall maintain a current file of complete design data.

(2) The manufacturer shall maintain a current file of complete data describing the inspection and test procedures applicable to his product. (See paragraph (d) of this section.)

(3) Six copies each, except where noted, of the following shall be furnished to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located.

(i) Manufacturer's operating instructions and equipment limitations.

(ii) Installation procedures with applicable schematic drawings, wiring diagrams, and specifications. Indicate any limitations, restrictions, or other conditions pertinent to installation.

(iii) One copy of the manufacturer's test report.

(d) *Quality control.* Airborne ATC transponder equipment shall be produced under a quality control system, established by the manufacturer, which will assure that each equipment is in conformity with the requirements of this section and is in a condition for safe operation. This system shall be described in the data required under paragraph (c)(2) of this section. The Administrator shall be permitted to make such inspections and tests at the manufacturer's facility as may be necessary to determine compliance with the requirements of this section.

(e) *Previously approved equipment.* Airborne ATC transponder equipment approved prior to the effective date of this section may continue to be manufactured under the provisions of its original approval.

§ 37.181 Hydraulic hose assemblies—TSO–C75.

(a) *Applicability.* Minimum performance standards are hereby established for hydraulic hose assemblies which are to be used on U.S. civil transport category aircraft. New models of hydraulic hose assemblies, manufactured on or after the effective date of this section, which are to be used on U.S. civil transport category aircraft shall meet the standards specified in Federal Aviation Agency Standard, "Hydraulic Hose Assemblies",

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[1] Copies of these papers may be obtained from the RTCA Secretariat, Suite 302, NADA Building, 20th and K Streets NW., Washington D.C., 20006. Paper 181–61/DO–112, 55 cents per copy; Paper 120–61/DO–108, 75 cents per copy.

dated December 15, 1962.[1] Hydraulic hose assemblies approved prior to the effective date of this section may continue to be manufactured under the provisions of their prior approval.

(b) *Marking.* Articles shall be marked in accordance with the requirements of § 37.7(d) with the following exceptions:

(1) Trademark may be used in lieu of name, and manufacturer's address is not required;

(2) Size, type, and maximum operating pressure of the hose assembly shall be shown in lieu of the weight in paragraph (d)(3) of § 37.7;

(3) Part number shall be shown;

(4) Date of manufacture in terms of month and year is to be shown and serial number omitted;

(5) In lieu of paragraph (d)(2) of § 37.7 hose assemblies suitable for use with synthetic base fluids shall be marked with the letter "S" immediately following the type designation. Assemblies suitable for use with petroleum base fluids shall be marked with the letter "P". Assemblies suitable for use with both synthetic and petroleum base fluids shall be marked with "S/P", i.e., Type II–B–S, Type II–B–P, or Type II–B–S/P; and

(6) Hose assemblies complying with the fire resistant requirements shall be identified by the letter "F" immediately following the type and fluid designation, i.e., Type II–B–S/P–F.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, six copies of the following technical data:

(1) Type;

(2) Size;

(3) Maximum operating pressure;

(4) Part number; and

(5) Installation instructions and limitations, if any.

(d) Effective date. September 4, 1963.

§ 37.182 Fuel drain valves—TSO–C76.

(a) *Applicability.* Minimum performance standards are hereby established for fuel drain valves to be used in civil aircraft of the United States. New models of fuel drain valves manufactured on or after the effective date of this section shall meet the standards specified in the Federal Aviation Agency Standards, "Fuel Drain Valves", dated October 1, 1962.[1]

(b) *Marking.* Articles shall be marked in accordance with the requirements of § 37.7(d) except that:

(1) The size shall be shown in lieu of the weight required by § 37.7(d)(3); and

(2) Parts too small to contain all the required information shall be marked with the TSO number and the manufacturer's name or identifying mark. For such parts, the other marking data required by § 37.7(d) shall be placed on the shipping container of the part.

(c) *Data requirements.* In addition to the data specified in § 37.5 the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of an instruction manual describing the product and supplying information on maintenance, overhaul, and installation.

(2) One copy of the manufacturer's test report.

§ 37.183 Gas turbine auxiliary power units—TSO–C77.

(a) *Applicability.* Minimum performance standards are hereby established for gas turbine auxiliary power units for use on civil aircraft of the United States. New models of gas turbine auxiliary power units manufactured for use on civil aircraft on or after the effective date of this section shall meet the standards specified in the Federal Aviation Agency Standard, "Gas Turbine Auxiliary Power Units", dated January 3, 1963.[1]

(b) *Marking.* Articles shall be marked in accordance with the requirements of § 37.7(d) except that the weight need only be shown to the nearest pound. In addition, the following shall also be shown:

(1) Maximum rated speeds and temperature;

(2) Maximum allowable speeds and temperature;

(3) Maximum rated output;

(4) Category and class of service;

(5) Fuel grade and specification; and

(6) Lubricating oil grade and specification.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Instruction manual containing instructions for the installation, operation, servicing maintenance, repair, and overhaul of the unit.

(2) Model specification.

§ 37.185 Fire detectors (radiation sensing type)—TSO–C79.

(a) *Applicability.* Minimum performance standards are hereby established for radiation sensing type fire detectors which are for use on both piston and turbine engine-powered civil aircraft of the United States. New models of fire detectors (radiation sensing type) manufactured on or after the effective date of this section, which are to be used on civil aircraft of the United States, shall meet the standards specified in Federal Aviation Agency Standard, "Fire Detectors (Radiation Sensing Type)", dated May 15, 1963.[1]

(b) *Marking.* In lieu of the weight required in § 37.7(d)(3), the operating voltage for the detector shall be shown. Compliance of the detector with the piston or turbine engine requirements, or both, shall be designated by –P, –T, or –PT, respectively, as a suffix following the technical standard order designation as TSO–C79–P.

(c) *Data requirements.* (1) In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(i) Six copies of the manufacturer's operating instructions and equipment limitations;

(ii) Six copies of the installation procedures with applicable schematic drawings, wiring diagrams, and specifications, indicating any limitations, restrictions, or other conditions pertinent to installation; and

(iii) One copy of the manufacturer's test report.

(2) The data required under subparagraph (1) (i) and (ii) of this paragraph shall include the following:

(i) Cone of vision expressed in degrees (apex of the cone is to be at the center of the sensor and the axis of the cone is to be at right angles to the face of the sensor).

(ii) Maximum effective range at field extremities;

(iii) Maximum allowable normal ambient temperature at the point of detector location;

(iv) Maximum and minimum allowable rate of temperature rise at point of detector location as a result of normal operation;

(v) Operating voltage;

(vi) Mounting or support method;

(vii) Maximum or minimum number of units which can be used in one circuit or one fire zone without adversely affecting sensitivity or causing false indications due to temperature;

(viii) Maximum allowable vibration at point of detector location;

(ix) Installation limitations (minimum distance) because of magnetic effect;

(x) Peak RF voltage and corresponding frequency;

(xi) Whether instrument is for pressurized area, nonpressurized area or both;

(xii) Which of the conditions in paragraphs 7.3.3, 7.3.4, 7.3.5 and 7.3.6 adversely affect the detector; and

(xiii) Whether detector meets the fire resistance requirements of paragraph 7.14.

§ 37.186 Flexible fuel and oil cell material—TSO–C80.

(a) *Applicability.* Minimum performance standards are hereby established for flexible fuel and oil cell liner material. New types of flexible fuel and oil cell material manufactured after the effective date of this section for use in civil aircraft of the United States shall meet the standards specified in Federal Aviation Agency Standard, "Flexible Fuel and Oil Cell Material", dated August 1, 1963.[1]

(b) *Marking.* In lieu of the marking requirements of § 37.7(d), flexible fuel and oil cell material shall be legibly and permanently marked with the following information:

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

(1) Name and address of the manufacturer;

(2) Type of fluid for which approved, i.e. fuel, or MIL–L–6082 oil, or MIL–L–7808 oil;

(3) For oil cell material, the minimum and maximum temperature limit;

(4) For oil cell material, the oil-dilution suitability;

(5) Month and year manufactured; and

(6) Applicable Technical Standard Order (TSO) number.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

(1) Six copies of the manufacturer's end product typical assembly instructions and limitations;

(2) Six copies of the recommended installation procedures, limitations, restrictions, or other conditions pertinent to a satisfactory installation;

(3) Six copies of the instructions for the inspection, repair and storage of material and/or cells including age limits on material, i.e. shelf life and service time;

(4) Six copies of the following descriptive information:

(i) construction number and description (ply by ply) of the construction buildup complete with weight and gage of each ply,

(ii) support means (type of fastener and locations),

(iii) total weight per square foot of cell constructions, and

(iv) total thickness of cell construction; and

(5) One copy of the manufacturer's test report.

(d) *Effective date.* May 26, 1964.

§ 37.190 Cockpit voice recorder—TSO C–84.

(a) *Applicability.* (1) Minimum performance standards are hereby established for cockpit voice recorders for use on United States civil aircraft. New models of cockpit voice recorders manufactured for use on civil aircraft on or after September 2, 1964, shall meet the standards specified in Federal Aviation Agency Standard, "Minimum Performance Standards for Cockpit Voice Recorders," dated November 1, 1963,[1] and Federal Aviation Agency document entitled, "Environmental Test Procedures for Airborne Electronic Equipment," August 31, 1962,[1] except as provided in subparagraph (2) of this paragraph.

(2) Federal Aviation Agency document, "Environmental Test Procedures for Airborne Electronic Equipment," outlines various test procedures which define the environmental extremes over which the equipment shall be designed to operate. Some test procedures have categories established and some do not. Where categories are established, only equipment which qualifies under one or more of the following categories, as specified in the FAA document, is eligible for approval under this order:

(i) Temperature-Altitude Test—Categories A, B, C, or D;

(ii) Vibration Test—Categories A, B, C, D, E, or F;

(iii) Audio-Frequency Magnetic Field Susceptibility Test—Categories A or B;

(iv) Radio-Frequency Susceptibility Test—Category A; and

(v) Emission of Spurious Radio-Frequency Energy Test—Category A.

(b) *Marking.* (1) In addition to the markings specified in § 37.7(d), the equipment shall be marked to indicate the environmental extremes over which it has been designed to operate. There are six environmental test procedures outlined in the FAA document, "Environmental Test Procedures for Airborne Electronic Equipment," which have categories established. These shall be identified on the nameplate by the words "environmental categories" or, as abbreviated, "Env. Cat." followed by six letters which identify the categories under which the equipment is qualified. Reading from left to right, the category designations shall appear on the nameplate in the following order so that they may be readily identified:

(i) Temperature-Altitude Category;

(ii) Vibration Test Category;

(iii) Audio-Frequency Magnetic Field Susceptibility Test Category;

(iv) Radio-Frequency Susceptibility Test Category;

(v) Emission of Spurious Radio-Frequency Energy Test Category; and

(vi) Explosion Test.

(2) Equipment which meets the explosion test requirement shall be identified by the letter "E". Equipment which does not meet the explosion test requirement shall be identified by the letter "X". A typical nameplate identification would be as follows: Env. Cat. DBAAAX.

(3) In some cases such as under the Temperature-Altitude Test Category, a manufacturer may wish to substantiate his equipment under two categories. In this case, the nameplate shall be marked with both categories in the space designated for that category by placing one letter above the other in the following manner: Env. Cat. $\frac{A}{D}$ BAAAX.

(c) *Data requirements.* In accordance with the provisions of § 37.5, the manufacturer shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located the following technical data:

(1) Six copies of the manufacturer's operating instructions and equipment limitations;

(2) Six copies of the installation procedures with applicable schematic drawings, wiring diagrams, and specifications, indicating any limitations, restrictions, or other conditions pertinent to installation; and

(3) One copy of the manufacturer's test report.

§ 37.191 Survivor locator lights—TSO–C85.

(a) *Applicability.* Minimum performance standards are hereby established for survivor locator lights intended for installation on life preservers (adult and child) and life rafts for use in civil aircraft of the United States. New models of survivor locator lights manufactured on or after the effective date of this section shall meet the requirements specified in Federal Aviation Agency Standard, "Survivor Locator Lights", dated April 22, 1964.[1]

(b) *Marking.* The survivor locator light shall be permanently marked in accordance with the provisions of § 37.7(d), except that the weight of the light assembly may be omitted.

(c) *Data requirements.* In accordance with the provisions of § 37.5, as applicable, manufacturers of survivor locator lights shall furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Agency, in the region in which the manufacturer is located, the following technical data:

Six copies of an instruction manual containing descriptive information of the device, information for its maintenance and overhaul, instruction concerning the proper mounting of the light on the life preservers or life rafts to ensure continued compliance with prescribed minimum performance standards and pertinent operating instructions and limitations for the device.

(d) *Effective date.* July 6, 1964.

DISTRIBUTION TABLE

Former section	*Revised section*
514.1	37.1
514.2(a) and (b)	37.3
514.2 (less (a) and (b))	37.5
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514.10	37.21
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[F.R. Doc. 64–11725; Filed, Nov. 16, 1964; 8:50 a.m.]

[1] Copies may be obtained upon request addressed to the Federal Aviation Agency, Attention HQ–630, Washington, D.C., 20553.

[1] Copies may be obtained upon request addressed to Library Services Division, HQ–630, Federal Aviation Agency, Washington, D.C., 20553.

[Airspace Docket No. 64–CE–2]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, CONTROLLED AIRSPACE, AND REPORTING POINTS [NEW]

Designation of Federal Airway Segment

On March 7, 1964, a notice of proposed rule making was published in the FEDERAL REGISTER (29 F.R. 3162) stating that the Federal Aviation Agency (FAA) proposed to designate a west alternate segment to VOR Federal airway No. 193 from White Cloud, Mich., via the intersection of the White Cloud 329° and the Traverse City 235° True radials to Traverse City.

Interested persons were afforded an opportunity to participate in the rule making through submission of comments. Due consideration was given to all relevant matter presented.

The Air Transport Association of America (ATA) commented that the proposal was desirable from an airline industry viewpoint. However, it was further stated that the proposal did not include the means for providing air route traffic control service at Manistee, Mich., with regard to communications. The ATA recommended that communications capability at Manistee be established prior to the designation of V–193 west alternate between White Cloud and Traverse City.

The establishment of a communication capability as recommended by the ATA is unrelated to the proposal contained in the Notice. The proposal as published pertained solely to the designation of an airway with associated control areas to provide a route for scheduled air carrier flights operating into and from the Manistee Airport. The FAA currently provides a communication capability through the Traverse City Flight Service Station down to the initial and missed approach altitudes at the Manistee Airport.

In consideration of the foregoing, Part 71 [New] of the Federal Aviation Regulations is amended, effective 0001 e.s.t., January 7, 1965, as hereinafter set forth.

Section 71.123 (29 F.R. 4, 1009) is amended as follows: In V–193 "Traverse City, Mich.;" is deleted and "Traverse City, Mich., including a W alternate from White Cloud to Traverse City via the INT of White Cloud 329° and Traverse City 235° radials;" is substituted therefor.

(Sec. 307(a), Federal Aviation Act of 1958; 49 U.S.C. 1348)

Issued in Washington, D.C., on November 6, 1964.

DANIEL E. BARROW,
Chief, Airspace Regulations and Procedures Division.

[F.R. Doc. 64–11656; Filed, Nov. 16, 1964; 8:46 a.m.]

[Airspace Docket No. 63–CE–103]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, CONTROLLED AIRSPACE, AND REPORTING POINTS [NEW]

Designation of Control Zone and Transition Areas and Revocation of Transition Areas

On September 4, 1964, a notice of proposed rule making was published in the FEDERAL REGISTER (29 F.R. 12592) stating that the Federal Aviation Agency proposed to designate controlled airspace in the Benton Harbor, Mich.; South Bend, Ind.; and Goshen, Ind., terminal areas.

Interested persons were afforded an opportunity to participate in the rule making through submission of comments. All comments received were favorable.

The notice of proposed rule making proposed to designate the Benton Harbor, Michigan, Control Zone "from 0730 to 2030 hours, local time, daily." In order to facilitate and expedite any future changes in the effective time of the control zone, the rule will modify the notice by specifying that the hours during which the control zone will be effective will be established in advance by a Notice to Airmen and continuously published in the Airman's Guide or its successor publication, the Airman's Information Manual, now planned for publication on December 10, 1964.

In consideration of the foregoing, Part 71 [New] of the Federal Aviation Regulations is amended effective 0001 e.s.t., January 7, 1965, as hereinafter set forth.

In § 71.171 (29 F.R. 1101) the following is added:

Benton Harbor, Mich.

Within a 5-mile radius of Ross Field, Benton Harbor, Mich. (latitude 42°07'45" N., longitude 86°25'45" W.) and within 2 miles each side of the 086° and 276° bearings from Ross Field, extending from the 5-mile radius zone to 8 miles east and west of the airport. This control zone shall be effective during specific times established in advance by a Notice to Airmen and continuously published in the Airman's Guide, or its successor publication, The Airman's Information Manual, now planned for publication on December 10, 1964.

In § 71.181 (29 F.R. 1160) the following is added:

Benton Harbor, Mich.

That airspace extending upward from 700 feet above the surface within 8 miles each side of the Keeler, Mich., VOR 266° radial, extending from the Keeler VOR to 29 miles west of the VOR.

Goshen, Ind.

That airspace extending upward from 700 feet above the surface within a 5-mile radius of Goshen, Ind., Airport (latitude 41°31'43" N., longitude 85°47'48" W.) and within 2 miles north and 3 miles south of the Goshen, Ind. VOR 090° radial extending from the 5-mile radius area to the VOR.

South Bend, Ind.

That airspace extending upward from 700 feet above the surface within a 6-mile radius of St. Joseph County Airport, South Bend, Ind. (latitude 41°42'15" N., longitude 86°18'50" W.) and within 5 miles south and 8 miles north of the South Bend ILS localizer east course, extending from St. Joseph County Airport to 12 miles east of the ILS outer marker and within 5 miles west and 8 miles east of the South Bend, Ind. VOR 360° radial, extending from the St. Joseph County Airport to 12 miles north of the VOR and within a 5-mile radius of Tyler Memorial Airport, Niles, Mich. (latitude 41°50'30" N., longitude 86°13'30" W.); and that airspace extending upward from 1,200 feet above the surface bounded on the south by latitude 41°20'00" N., on the west by longitude 87°00'00" W., on the north by latitude 42°35'00" N., and on the east by a line extending from latitude 42°35'00" N., longitude 86°00'00" W., direct to latitude 42°07'30" N., longitude 86°00'00" W., along the east edge of V–277 to latitude 41°40'00" N., longitude 85°38'25" W., direct to latitude 41°40'00" N., longitude 85°30'00" W., direct to latitude 41°20'00" N., longitude 85°30'00" N.

In § 71.181 (29 F.R. 1160) the following is deleted:

Pullman, Mich.

That airspace extending upward from 1,200 feet above the surface within the area bounded on the N by V–30S, on the E by longitude 86°36'00" W., on the SE by V–193, on the SW by the South Bend, Ind., VORTAC 314° radial and on the W by longitude 87°01'00" W.

(Sec. 307(a), Federal Aviation Act of 1958; 49 U.S.C. 1348)

Issued in Kansas City, Mo., on November 4, 1964.

EDWARD C. MARSH,
Director, Central Region.

[F.R. Doc. 64–11655; Filed, Nov. 16, 1964; 8:46 a.m.]

[Airspace Docket No. 64–WA–40]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, CONTROLLED AIRSPACE, AND REPORTING POINTS [NEW]

PART 75—ESTABLISHMENT OF JET ROUTES [NEW]

Alteration of Federal Airways and Jet Routes

On October 27, 1964, the Federal Register Document No. 64–10881 was published in the FEDERAL REGISTER (29 F.R. 14621) amending Parts 71 and 75 [New] of the Federal Aviation Regulations by altering several VOR Federal airways and jet routes as a result of the relocation of the Windsor, Ontario, Canada, VOR. These actions are to become effective 0001 e.s.t., November 19, 1964.

Jet Route No. 70 was altered via the direct radial between the Windsor, Ontario, and Erie, Pa., VORs. Jet Route Nos. 70 and 550 presently coincide between Windsor and Erie. It is the intent of the Federal Aviation Agency that these jet routes should overlie VOR Federal airway No. 116 which, effective November 19, 1964, will be aligned from Windsor via the intersection of the Windsor 100° and the Erie 275° radials to Erie. Such action is taken herein.

Since the changes accomplished by these amendments move the jet routes concerned a maximum of approximately 3 miles within United States airspace, they are minor in nature, and the public is not particularly interested in public procedure thereon. Therefore, the Administrator finds that compliance with the notice and public procedure provisions of section 4 of the Administrative Procedure Act is unnecessary.

In order to maintain compatibility with the Canadian portion of the jet routes altered herein, the Administrator finds that good cause exists for making these amendments effective on less than 30 days notice.

In consideration of the foregoing, Federal Register Document No. 64–10881 is altered effective 0001 e.s.t., November 19, 1964, as follows:

1. Item 2b. is amended to read:

b. In Jet Route No. 70 everything after "Pullman, Mich.;" is deleted and "Windsor, Ont., Canada; INT of Windsor 100° and Erie, Pa., 275° radials; Erie; Huguenot, N.Y.; to Kennedy, N.Y. The portion within Canada is excluded." is substituted therefor.

2. Item 2f. is added to read:

f. In Jet Route No. 550 "Erie, Pa., 278° radial" is deleted and "Erie, Pa., 275° radial" is substituted therefor.

(Sec. 307(a), Federal Aviation Act of 1958; 49 U.S.C. 1348)

Issued in Washington, D.C., on November 6, 1964.

DANIEL E. BARROW,
Chief, Airspace Regulations and Procedures Division.

[F.R. Doc. 64–11657; Filed, Nov. 16, 1964; 8:46 a.m.]

Chapter III—Federal Aviation Agency

PART 514—TECHNICAL STANDARD ORDERS FOR AIRCRAFT MATERIALS, PARTS, PROCESSES, AND APPLIANCES

CROSS REFERENCE: For supersedure of Part 514, see Part 37 [New] of Chapter I of this title, supra.

Title 7—AGRICULTURE

Chapter I—Agricultural Marketing Service (Standards, Inspections, Marketing Practices), Department of Agriculture

PART 52—PROCESSED FRUITS AND VEGETABLES, PROCESSED PRODUCTS THEREOF, AND CERTAIN OTHER PROCESSED FOOD PRODUCTS

Subpart—United States Standards for Grades of Canned Orange Juice [1]

A proposal to revise the United States Standards for Grades of Canned Orange Juice was published in the FEDERAL REGISTER of September 16, 1964 (29 F.R. 12972). Interested persons were given until October 16, 1964, to submit written data, views, or arguments for consideration in connection with the proposed revision. Additional time for the submission of such data, views or arguments, to October 31, 1964, was provided by FEDERAL REGISTER publication on September 29, 1964 (29 F.R. 13430).

Statement of consideration leading to the revised standards. Few individual comments have been received concerning the Department's proposal of September 16, 1964. However, major citrus interests, the Florida Canners Association and the Florida Citrus Commission, voiced approval of the revised standards as proposed.

In the matter of minimum Brix/acid ratios for canned orange juice when the Brix of the juice is 15° or more, the proposed "no minimum" is changed to "9:1" to correspond to the minimum ratio as specified in the standards of identity for canned orange juice, promulgated by the Food and Drug Administration of the U.S. Department of Health, Education, and Welfare.

The Commonwealth of Puerto Rico commented that since oranges grown in that area are similar to those grown in Florida and Texas that area should also be included with those states in setting minimum acid requirements. Section 52.1559 *Flavor,* has been reworded to accomplish this.

After consideration of all relevant matters presented including the proposal in the aforesaid notice and pursuant to the authority contained in the Agricultural Marketing Act of 1946 (secs. 202–208, 60 Stat. 1087, as amended, 7 U.S.C. 1621–1627), the proposed United States Standards for Grades of Canned Orange Juice which were contained in the aforesaid notice are hereby adopted in the same form and manner as they appeared in the aforesaid notice and are hereby incorporated herein by this reference, except for the following change:

Section 52.1559, *Flavor,* is deleted in its entirety and a new § 52.1559 is substituted in lieu thereof.

It is hereby found that good cause exists for not postponing the effective date of this revision beyond that specified (5 U.S.C. 1003(c)) in that:

(1) The citrus processing season is imminent and it is necessary for purposes of inspection and marketing that the Department's grade standards be brought into conformance with Federal Food and Drug requirements of identity for orange juice products which became effective on July 1, 1964;

(2) The citrus industry is well aware of the provisions of the revised standards through published notice of proposed rule making, industry meetings, trade publications and other news media;

(3) No changes in production or marketing are required by the revised standards which are not already in effect and no preparation by users of the standards is required;

(4) Persons most interested in the revised standards have been supplied with copies of proposed standards, the text of which, for all practical purposes, is identical with the revised standards now promulgated.

The United States Standards for Grades of Canned Orange Juice (which is the eighth issue) contained in this subpart, shall become effective upon publication hereof in the FEDERAL REGISTER, and will thereupon supersede the United States Standards for Grades of Canned Orange Juice which have been in effect since February 14, 1963.

Dated: November 12, 1964.

G. R. GRANGE,
Deputy Administrator, Marketing Services.

PRODUCT DESCRIPTION, STYLES, GRADES

Sec.
52.1551 Product description.
52.1552 Styles.
52.1553 Grades.

FILL OF CONTAINER

52.1554 Recommended fill of container.

FACTORS OF QUALITY

52.1555 Ascertaining the grade of a sample unit.
52.1556 Ascertaining the rating for the factors which are scored.
52.1557 Color.
52.1558 Defects.
52.1559 Flavor.

EXPLANATIONS AND METHODS OF ANALYSES

52.1560 Definitions of terms and methods of analyses.

LOT COMPLIANCE

52.1561 Ascertaining the grade of a lot.

SCORE SHEET

52.1562 Score sheet for canned orange juice.

AUTHORITY: The provisions of this subpart issued under secs. 202–208, 60 Stat. 1087; 7 U.S.C. 1621–1627.

PRODUCT DESCRIPTION, STYLES, GRADES

§ 52.1551 Product description.

Canned orange juice means the product as defined in the standards of identity for canned orange juice (21 CFR 27.108) issued pursuant to the Federal Food, Drug, and Cosmetic Act.

§ 52.1552 Styles.

(a) Without sweetener.
(b) With sweetener.

§ 52.1553 Grades.

(a) "U.S. Grade A" (or "U.S. Fancy") is the quality of canned orange juice that: (1) Shows no coagulation, (2) has a good color, (3) is practically free from defects, (4) possesses a good flavor, and (5) scores not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

(b) "U.S. Grade C" (or "U.S. Standard") is the quality of canned orange juice that: (1) May show a slight coagulation, (2) has a fairly good color, (3) is fairly free from defects, (4) possesses a fairly good flavor, and (5) scores not less than 80 points when scored in accordance with the scoring system outlined in this subpart.

(c) "Substandard" is the quality of canned orange juice that fails to meet the requirements of U.S. Grade C.

[1] Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable state laws and regulations.

FILL OF CONTAINER

§ 52.1554 Recommended fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that the container be as full of orange juice as practicable.

FACTORS OF QUALITY

§ 52.1555 Ascertaining the grade of a sample unit.

(a) *General.* The grade of a sample unit of canned orange juice is ascertained by considering the degree of any coagulation, which is not scored; the ratings for the factors of color, defects, and flavor which are scored; the total score; and the limiting rules which may be applicable.

(b) *Factors rated by score points.* The relative importance of each scoring factor is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factor:	Points
Color	40
Defects	20
Flavor	40
Total	100

§ 52.1556 Ascertaining the rating for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, "18 to 20 points" means 18, 19, or 20 points).

§ 52.1557 Color.

(a) *Evaluation of color.* (1) The color of canned orange juice is evaluated by comparing the color of the product with the USDA Orange Juice Color Standards so that these color standards become points of reference.

(2) Such comparison is made under an artificial light source of approximately 150 candela intensity and having a spectral quality approximating that of daylight under a moderately overcast sky and a color temperature of 7500 degrees Kelvin, ±200 degrees.

(3) The USDA Orange Juice Color Standards range from yellow-orange to yellow color, with USDA OJ 1 being the most orange color in the series.

(b) *Procedure in evaluating color.* (1) Place the product in a clear glass test tube of 1 inch diameter.

(2) Arrange color standards in a test tube rack or similar device so that light coming from above strikes the standards at a 45 degree angle. The standards are inclined at a 45 degree angle against a neutral grey background. Observe the standards and product at right angles to the tubes.

(3) Classify the juice by inserting the tube of juice where it best fits in the series of color standards. Orange juice differing in color and brightness from the most nearly matching USDA Orange Juice Color Standard is evaluated by considering the amount of difference and its effect on the total appearance of the juice.

(c) *Availability of color standards.* The USDA Orange Juice Color Standards cited in this section are official color standards which may also be applied to other orange juices. Information regarding these color standards, and their availability, may be obtained from:

Processed Products Standardization and Inspection Branch,
Fruit and Vegetable Division,
Agricultural Marketing Service,
U.S. Department of Agriculture,
Washington, D.C., 20250.

(d) (*A*) *Classification.* Canned orange juice that has a good color may be given a score of 36 to 40 points. "Good color" means a bright yellow to yellow-orange color, typical of orange juice color. Canned orange juice that meets this criterion may be assigned score points in accordance with the following schedule:

As compared with USDA Orange Juice Color Standards:	Score
Equal to or better than USDA OJ 2	40 points
Equal to or better than USDA OJ 3	39 points
Equal to or better than USDA OJ 4	38 points
Equal to or better than USDA OJ 5	37 points
Equal to or better than USDA OJ 6	36 points

(e) (*C*) *Classification.* If the canned orange juice has a fairly good color, a score of 32 to 35 points may be given. Canned orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly good color" means a color that is not as good as USDA OJ 6. It may be slightly amber or very light in hue, or it may show slight evidence of browning; but is typical of canned orange juice.

(f) (*SStd.*) *Classification.* If the canned orange juice fails to meet the requirements of paragraph (e) of this section a score of 0 to 31 points may be given. Canned orange juice that falls into this classification shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.1558 Defects.

(a) *General.* The factor of defects refers to the degree of freedom from recoverable oil; from particles of membrane, core, or skin; from seeds or seed particles; and from other defects.

(b) (*A*) *Classification.* Canned orange juice that is practically free from defects may be given a score of 18 to 20 points. "Practically free from defects" means that there may be present not more than 0.030 percent by volume of recoverable oil and that the juice does not contain particles of membrane, core, or skin, seeds or seed particles, or other defects that affect more than slightly the appearance of the product.

(c) (*C*) *Classification.* If the canned orange juice is fairly free from defects, a score of 16 or 17 points may be given. Canned orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that there may be present not more than 0.050 percent by volume of recoverable oil and that the juice does not contain particles of membrane, core, or skin, seeds or seed particles, or other defects that affect materially the appearance of the product.

(d) (*SStd.*) *Classification.* Canned orange juice that fails to meet the requirements of paragraph (c) of this section may be given a score of 0 to 15 points and shall not be graded above Substandard regardless of the total score for the product (this is a limiting rule).

§ 52.1559 Flavor.

(a) (*A*) *Classification.* Canned orange juice that possesses a good flavor may be given a score of 36 to 40 points. "Good flavor" means a fine, distinct canned orange juice flavor which is definitely free from traces of scorching, caramelization, oxidation, or terpene; is free from off flavors of any kind; and meets the following requirements for the respective styles; and when produced from fruit grown in the geographical areas indicated:

(1) *Without sweetener.*

	Minimum	Maximum
Brix (degrees)	10.5	
Acid (per 100 ml.):		
California or Arizona	0.75 gm	1.45 gms.
Outside California or Arizona.	0.65 gm	1.45 gms.
Brix-acid ratio:		
If Brix is less than 11.5°.	10:1	18:1.
If Brix 11.5° or more	9:1	18:1.

(2) *With sweetener.*

	Minimum	Maximum
Brix (degrees)	10.5°	
Acid (per 100 ml.):		
California or Arizona	0.75 gm	1.45 gms.
Outside California or Arizona.	0.65 gm	1.45 gms.
Brix-acid ratio:		
If Brix less than 15°	12:1	18:1.
If Brix 15° or more	9:1	18:1.

(b) (*C*) *Classification.* If the canned orange juice possesses a good flavor, a score of 32 to 35 points may be given. Canned orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly good flavor" means a good, normal canned orange juice flavor which may have a slightly caramelized or slightly oxidized flavor but is free from off flavors of any kind and meets the following requirements for the respective style; and when produced from fruit grown in the geographical areas indicated:

(1) *Without sweetener.*

	Minimum	Maximum
Brix (degrees)	10.0°	
Acid (per 100 ml.)	0.55 gm	1.60 gms.
Brix-acid ratio	9:1	

(2) *With sweetener.*

	Minimum	Maximum
Brix (degrees)	10.5	
Acid (per 100 ml.):		
California or Arizona	0.65 gm.	1.65 gms.
Outside California or Arizona.	0.60 gm.	1.65 gms.
Brix-acid ratio:		
If Brix less than 15°	12:1	18:1.
If Brix 15° or more	9:1	18:1.

(c) *(SStd) Classification.* Canned orange juice that fails to meet the requirements of paragraph (b) of this section, or is off flavor for any reason, may be given a score of 0 to 31 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

EXPLANATIONS AND METHODS OF ANALYSES

§ 52.1560 Definitions of terms and methods of analyses.

(a) *Brix.* "Brix" means the degrees Brix of canned orange juice when tested with a Brix hydrometer calibrated at 20 degrees C. (68 degrees F.). If used in testing juice at a temperature other than 20 degrees C. (68 degrees F.) the applicable temperature correction shall be made to the reading of the scale as prescribed in the "Official Methods of Analysis of the Association of Official Agricultural Chemists." The degrees Brix of canned orange juice may be determined by any other method which gives equivalent results.

(b) *Acid.* "Acid" means the grams of total acidity, calculated as anhydrous citric acid, per 100 ml. of canned orange juice. Total acidity is determined by titration with standard sodium hydroxide solution using phenolphthalein as indicator.

(c) *Brix-acid ratio.* The "brix-acid ratio" is the ratio of the degrees Brix of the canned orange juice to the grams of anhydrous citric acid per 100 milliliters of the juice.

(d) *Recoverable oil.* "Recoverable oil" in canned orange juice is determined by the following method:

(1) *Equipment.* Oil separatory trap similar to either of those illustrated in Figure 1 [2] or Figure 2.[2]

Gas burner or hot plate.
Ringstand and clamps.
Rubber tubing.
3-liter narrow-neck flask.

(2) *Procedure.* (i) Place exactly 2 liters of juice in the 3-liter flask and insert the separatory trap. Close the stopcock, place distilled water in the graduated tube, run cold water through the condenser from bottom to top, and bring the juice to a boil. Continue boiling for one hour at the rate of approximately 50 drops per minute.

(ii) By means of the stopcock, lower the oil into the graduated portion of the separatory trap, remove the trap from the flask, allow it to cool, and record the amount of oil recovered.

(iii) The number of milliliters of oil recovered divided by 20 equals the percent by volume of recoverable oil.

[2] Filed as part of the original document.

LOT COMPLIANCE

§ 52.1561 Ascertaining the grade of a lot.

The grade of a lot of canned orange juice covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 through 52.87).

SCORE SHEET

§ 52.1562 Score sheet for canned orange juice.

Size and kind of container			----
Container mark or identification		Cans	----
		Cases	----
Label (including ingredient statement, if any)			----
Liquid measure (fluid ounces)			----
Vacuum (inches)			----
Style			----
Brix (degrees)			----
Acid (grams/100 ml.: calculated as anhydrous citric acid)			----
Brix-acid ratio (:1)			----
Recoverable oil (percent by volume)			----
Degree of coagulation:			
( ) None.			
( ) Slight.			
( ) Serious.			

Factors		Score points	
Color	40	(A)	36–40
		(C) [1]	32–35
		(SStd.) [1]	0–31
Defects	20	(A)	18–20
		(C) [1]	16–17
		(SStd.) [1]	0–15
Flavor	40	(A)	36–40
		(C) [1]	32–35
		(SStd.) [1]	0–31
Total score	100		

Grade	----

[1] Indicates limiting rule.

[F.R. Doc. 64–11699; Filed, Nov. 16, 1964; 8:49 a.m.]

PART 52—PROCESSED FRUITS AND VEGETABLES, PROCESSED PRODUCTS THEREOF, AND CERTAIN OTHER PROCESSED FOOD PRODUCTS

Subpart—United States Standards for Grades of Concentrated Orange Juice for Manufacturing [1]

A proposal to revise the United States Standards for Grades of Concentrated Orange Juice for Manufacturing was published in the FEDERAL REGISTER of September 16, 1964 (29 F.R. 12974). Interested persons were given until October 16, 1964, to submit written data, views, or arguments for consideration in connection with the proposed revision. Additional time for the submission of such data, views, or arguments, to October 31, 1964, was provided by FEDERAL REGISTER publication on September 29, 1964 (29 F.R. 13430).

Statement of consideration leading to the revised standards. No adverse comment has been received concerning the Department's proposal of September 16, 1964. Major citrus interests, the Florida Canners Association and the Florida Citrus Commission, voiced approval of the revised standards as proposed.

After consideration of all relevant matters presented including the proposal in the aforesaid notice and pursuant to the authority contained in the Agricultural Marketing Act of 1964 (secs. 202–208, 60 Stat. 1087, as amended, 7 U.S.C. 1621–1627) the proposed United States Standards for Grades of Concentrated Orange Juice for Manufacturing which were contained in the aforesaid notice are hereby adopted in the same form and manner as they appeared in the aforesaid notice and are hereby incorporated herein by this reference.

It is hereby found that good cause exists for not postponing the effective date of this revision beyond that specified (5 U.S.C. 1003(c)) in that:

(1) The citrus processing season is imminent and it is necessary for purposes of inspection and marketing that the Department's grade standards be brought into conformance with Federal Food and Drug requirements of identity for orange juice products which became effective on July 1, 1964;

(2) The citrus industry is well aware of the provisions of the revised standards through published notice of proposed rule making, industry meetings, trade publications and other news media;

(3) No changes in production or marketing are required by the revised standards which are not already in effect and no preparation by users of the standards is required;

(4) Persons most interested in the revised standards have been supplied with copies of proposed standards, the text of which is identical with the revised standards now promulgated.

The United States Standards for Grades of Concentrated Orange Juice for Manufacturing (which is the third issue) contained in this subpart shall become effective upon publication hereof in the FEDERAL REGISTER, and will thereupon supersede the United States Standards for Grades of Concentrated Orange Juice for Manufacturing which have been in effect since December 20, 1957.

Dated: November 12, 1964.

G. R. GRANGE,
Deputy Administrator,
Marketing Services.

PRODUCT DESCRIPTION, STYLES, GRADES

Sec.
52.2221 Product description.
52.2222 Grades.

FILL OF CONTAINER

52.2223 Recommended fill of container.

FACTORS OF QUALITY

52.2224 Ascertaining the grade of a sample unit.

[1] Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable state laws and regulations.

Sec.
52.2225 Ascertaining the rating for the factors which are scored.
52.2226 Color.
52.2227 Defects.
52.2228 Flavor.

EXPLANATIONS AND METHODS OF ANALYSES

52.2229 Definitions of terms and methods of analyses.

LOT COMPLIANCE

52.2230 Ascertaining the grade of a lot.

SCORE SHEET

52.2231 Score sheet for concentrated orange juice for manufacturing.

AUTHORITY: The provisions of this subpart issued under secs. 202–208, 60 Stat. 1087, as amended; 7 U.S.C. 1621–1627.

PRODUCT DESCRIPTION, STYLES, GRADES

§ 52.2221 Product description.

Concentrated orange juice for manufacturing is the product as defined in the standards of identity (21 CFR 27.114 and 21 CFR 27.115) issued pursuant to the Federal Food, Drug, and Cosmetic Act.

§ 52.2222 Grades.

(a) "U.S. Grade A for Manufacturing" (or "U.S. Fancy for Manufacturing") is the quality of concentrated orange juice that reconstitutes properly and of which the reconstituted juice: (1) Has a reasonably good color, (2) is practically free from defects, (3) possesses a reasonably good flavor, and (4) scores not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

(b) "U.S. Grade C for Manufacturing" (or "U.S. Standard for Manufacturing") is the quality of concentrated orange juice that reconstitutes properly, and of which the reconstituted juice: (1) Has a faily good color, (2) is fairly free from defects, (3) possesses a fairly good flavor, and (4) scores not less than 80 points when scored in accordance with the scoring system outlined in this subpart.

(c) "Substandard" is the quality of concentrated orange juice for manufacturing that fails to meet the requirements of U.S. Grade C for Manufacturing.

FILL OF CONTAINER

§ 52.2223 Recommended fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that the container be as full of concentrated orange juice as practicable without impairment of quality.

FACTORS OF QUALITY

§ 52.2224 Ascertaining the grade of a sample unit.

(a) *General.* The grade of a sample unit of concentrated orange juice for manufacturing is ascertained by considering the faculty of reconstituting properly which is not scored; the ratings for the factors of color, defects, and flavor which are scored; the total score; and the limiting rules which may be applicable.

(b) *Factors rated by score points.* The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors:	Points
Color	40
Defects	20
Flavor	40
Total score	100

§ 52.2225 Ascertaining the rating for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, "18 to 20 points" means 18, 19, or 20 points).

§ 52.2226 Color.

(a) *Evaluation of color.* (1) The color of concentrated orange juice for manufacturing, where applicable, is evaluated by comparing the color of the reconstituted product with the USDA Orange Juice Color Standards so that these color standards become points of reference.

(2) Such comparison is made under an artificial light source of approximately 150 candela intensity and having a spectral quality approximating that of daylight under a moderately overcast sky and a color temperature of 7500 degrees Kelvin, ±200 degrees.

(3) The USDA Orange Juice Color Standards range from yellow-orange to yellow color, with USDA OJ 1 being the most orange color in the series.

(b) *Procedure in evaluating color.* (1) Place the reconstituted juice in a clear glass test tube of 1 inch diameter.

(2) Arrange color standards in a test tube rack or similar device so that light coming from above strikes the standards at a 45 degree angle. The standards are inclined at a 45 degree angle against a neutral grey background. Observe the standards and product at right angles to the tubes.

(3) Classify the juice by inserting the tube of juice where it best fits in the series of color standards. Orange juice differing in color and brightness from the most nearly matching USDA Orange Juice Color Standard is evaluated by considering the amount of difference and its effect on the total appearance of the juice.

(c) *Availability of color standards.* The USDA Orange Juice Color Standards cited in this section are official color standards which may also be applied to other orange juices. Information regarding these color standards, and their availability, may be obtained from:

Processed Products Standardization and Inspection Branch,
Fruit and Vegetable Division,
Agricultural Marketing Service,
U.S. Department of Agriculture,
Washington, D.C., 20250.

(d) (*A Mfg.*) *Classification.* Concentrated orange juice for manufacturing of which the reconstituted juice possesses a reasonably good color may be given a score of 36 to 40 points. "Reasonably good color" means a reasonably good yellow to yellow-orange color, typical of properly processed and properly concentrated orange juice and reasonably free from browning due to scorching, oxidation, carmelization, or other causes. Concentrated orange juice for manufacturing that meets this criterion may be assigned score points in accordance with the following schedule:

As compared with USDA Orange Juice Color Standards:	Score
Equal to or better than USDA OJ 2	40 points
Equal to or better than USDA OJ 3	39 points
Equal to or better than USDA OJ 4	38 points
Equal to or better than USDA OJ 5	37 points
Equal to or better than USDA OJ 6	36 points

(e) (*C Mfg.*) *Classification.* If the reconstituted juice possesses a fairly good color, a score of 32 to 35 points may be given. Concentrated orange juice for manufacturing that falls into this classification shall not be graded above U.S. Grade C for Manufacturing regardless of the total score for the product (this is a limiting rule). "Fairly good color" means that the juice may be slightly amber or very light in color and may show evidence of slight browning but is not off color for any reason.

(f) (*SStd Mfg.*) *Classification.* If the reconstituted juice fails to meet the requirements of paragraph (e) of this section a score of 0 to 31 points may be given. Concentrated orange juice for manufacturing that falls into this classification shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2227 Defects.

(a) *General.* The factor of defects concerns the degree of freedom from small seeds and portions thereof; from discolored specks, white flakes, harmless extraneous material, and other similar defects; and from juice sacs and particles of membrane, core, and peel in excess of that normally present in orange juice.

(b) *Small seeds and portions thereof.* "Small seeds and portions thereof" means seed, whether fully developed or not, and particles of seed that could pass readily through round perforations ⅛ inch (3.2 mm.) in diameter.

(c) (*A*) *Classification.* Concentrated orange juice for manufacturing of which the reconstituted juice is practically free from defects may be given a score of 18 to 20 points. "Practically free from defects" means that any combination of defects present may no more than slightly detract from the appearance or drinking quality of the juice.

(d) (*C Mfg.*) *Classification.* If the reconstituted juice is fairly free from defects, a score of 16 or 17 points may be given. Concentrated orange juice for manufacturing that falls into this classification shall not be graded above U.S. Grade C for Manufacturing, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that any combination of defects present may not seriously detract

from the appearance or drinking quality of the juice.

(e) *(SStd. Mfg.) Classification.* Concentrated Orange Juice for Manufacturing that fails to meet the requirements of paragraph (d) of this section may be given a score of 0 to 15 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2228 Flavor.

(a) *(A Mfg.) Classification.* Concentrated orange juice for manufacturing of which the reconstituted juice possesses a reasonably good flavor may be given a score of 36 to 40 points. "Reasonably good flavor" means that the flavor is typical of reconstituted concentrated orange juice from properly processed and concentrated orange juice; that the flavor may range from high acidity to low acidity; is practically free from traces of scorching, carmelization, oxidation, or terpene; and is free from other off flavors of any kind. To score in this classification the ratio of the Brix value of the concentrate to the acid shall be not less than 8 to 1 nor more than 20 to 1.

(b) *(C Mfg.) Classification.* If the reconstituted juice possesses a fairly good flavor, a score of 32 to 35 points may be given. Concentrated orange juice for manufacturing that falls into this classification shall not be graded above U.S. Grade C for Manufacturing, regardless of the total score for the product (this is a limiting rule). "Fairly good flavor" means a normal flavor for reconstituted concentrated orange juice; and that the flavor may range from high acidity to low acidity; may have a slightly caramelized or slightly oxidized flavor or may possess traces of terpene but is free from off flavors of any kind. To score in this classification the ratio of the Brix value of the concentrate to the acid shall be not less than 8 to 1 nor more than 24 to 1.

(c) *(SStd Mfg.) Classification.* If the concentrated orange juice for manufacturing fails to meet the requirements of paragraph (b) of this section, a score of 0 to 31 points may be given. Concentrated orange juice for manufacturing that falls into this classification shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

EXPLANATIONS AND METHODS OF ANALYSES

§ 52.2229 Definitions of terms and methods of analyses.

(a) *Reconstituted juice.* "Reconstituted juice" means the product obtained by thoroughly mixing the concentrate with the amount of distilled water to produce an orange juice of between 11.8 and 12.8 degrees Brix.

(b) *Reconstitutes properly.* "Reconstitutes properly" means that the concentrate goes into solution readily; and that in approximately 250 ml. of the reconstituted juice, after standing four (4) hours at a temperature of not less than 68 degrees Fahrenheit in a clean glass cylinder (approximately 1¼ inches (3 cm.) in diameter, there may be a noticeable separation of suspended matter but any resulting zone of greater clarity shall be definitely turbid and not clear or transparent.

(c) *Acid.* "Acid" means the percent by weight of total acidity, calculated as anhydrous citric acid, in the concentrated orange juice. Total acidity is determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.

(d) *Brix.* "Brix" of the reconstituted juice means the degree Brix as determined by the Brix hydrometer calibrated at 20 degrees Centigrade (68 degrees Fahrenheit) and to which any applicable temperature correction has been applied.

(e) *Brix value.* "Brix value" in concentrated orange juice for manufacturing is the refractometric sucrose value determined in accordance with the "International Scale of Refractive Indices of Sucrose Solutions" and to which the applicable correction for acid is added (see Table I of this subpart for corrections). The measurement of Brix value is determined on the concentrate in accordance with the refractometric method for sugars and sugar products, outlined in the "Official Methods of Analysis of the Association of Official Agricultural Chemists."

(f) *Brix value-acid ratio.* The Brix value-acid ratio is the ratio of the Brix value of the concentrate in degrees Brix to the grams of anhydrous citric acid per 100 grams of concentrate.

TABLE I [1]—CORRECTIONS FOR OBTAINING BRIX VALUE

Citric acid anhydrous (percent by weight)	*Correction to be added to refractometer sucrose value to obtain degree Brix value*
2.0	0.39
2.2	.43
2.4	.47
2.6	.51
2.8	.54
3.0	.58
3.2	.62
3.4	.66
3.6	.70
3.8	.74
4.0	.78
4.2	.81
4.4	.85
4.6	.89
4.8	.93
5.0	.97

[1] Source: "Refractometric Determination of Soluble Solids in Citrus Juices," by J. W. Stevens and W. E. Baier, from the Analytical Edition of Industrial and Engineering Chemistry, Vol. II, Page 447, August 15, 1939.

LOT COMPLIANCE

§ 52.2230 Ascertaining the grade of a lot.

The grade of a lot of concentrated orange juice for manufacturing covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 to 52.87).

SCORE SHEET

§ 52.2231 Score sheet for concentrated orange juice for manufacturing.

Size and kind of container	
Container mark or identification	{Cans / Cases}
Label (including reconstitution factor)	
Liquid measure (fluid ounces)	
Vacuum (inches)	
Brix value (of concentrate)	
Total acidity:	
As anhydrous citric	
Percent by weight	
Brix value-acid ratio (:1)	
Reconstitutes properly: (yes) (no)	
Preservative (or kind) (yes) (no)	

Factors		Score points	
Color	40	A Mfg.	36–40
		C Mfg.	[1] 32–35
		SStd. Mfg.	[1] 0–31
Defects	20	A Mfg.	18–20
		C Mfg.	[1] 16–17
		SStd. Mfg.	[1] 0–15
Flavor	40	A Mfg.	36–40
		C Mfg.	[1] 32–35
		SStd. Mfg.	[1] 0–31
Total score	100		

Grade for manufacturing	

[1] Indicates limiting rule.

[F.R. Doc. 64–11700; Filed, Nov. 16, 1964; 8:49 a.m.]

PART 52—PROCESSED FRUITS AND VEGETABLES, PROCESSED PRODUCTS THEREOF, AND CERTAIN OTHER PROCESSED FOOD PRODUCTS

Subpart—United States Standards for Grades of Canned Concentrated Orange Juice [1]

A proposal to revise the United States Standards for Grades of Canned Concentrated Orange Juice was published in the FEDERAL REGISTER of September 16, 1964 (29 F.R. 12976). Interested persons were given until October 16, 1964, to submit written data, views, or arguments for consideration in connection with the proposed revision. Additional time for the submission of such data, views, or arguments, to October 31, 1964, was provided by FEDERAL REGISTER publication on September 29, 1964 (29 F.R. 13430).

Statement of consideration leading to the revised standards. No adverse comment has been received concerning the Department's proposal of September 16, 1964. Major citrus interests, the Florida Canners Association and the Florida Citrus Commission, voiced approval of the standards as proposed.

After consideration of all relevant matters presented including the proposal in the aforesaid notice and pursuant to the authority contained in the Agricultural Marketing Act of 1946 (secs. 202–208, 60 Stat. 1087, as amended, 7 U.S.C. 1621–1627) the proposed United States Standards for Grades of Canned Con-

[1] Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable state laws and regulations.

centrated Orange Juice which were contained in the aforesaid notice are hereby adopted in the same form and manner as they appeared in the aforesaid notice and are hereby incorporated herein by this reference.

It is hereby found that good cause exists for not postponing the effective date of this revision beyond that specified (5 U.S.C. 1003(c)) in that:

(1) The citrus processing season is imminent and it is necessary for purposes of inspection and marketing that the Department's grade standards be brought into conformance with Federal Food and Drug requirements of identity for orange juice products which became effective on July 1, 1964;

(2) The citrus industry is well aware of the provisions of the revised standards through published notice of proposed rule making, industry meetings, trade publications and other news media;

(3) No changes in production or marketing are required by the revised standards which are not already in effect and no preparation by users of the standards is required;

(4) Persons most interested in the revised standards have been supplied with copies of proposed standards, the text of which is identical with the revised standards now promulgated.

The United States Standards for Grades of Canned Concentrated Orange Juice (which is the fourth issue) contained in this subpart shall become effective upon publication hereof in the FEDERAL REGISTER, and will thereupon supersede the United States Standards for Grades of Canned Concentrated Orange Juice which have been in effect since December 12, 1953.

Dated: November 12, 1964.

C. R. GRANGE,
Deputy Administrator,
Marketing Services.

PRODUCT DESCRIPTION, STYLES, GRADES

Sec.

52.2251 Product description.
52.2252 Styles.
52.2253 Grades.

FILL OF CONTAINER

52.2254 Recommended fill of container.

FACTORS OF QUALITY

52.2255 Ascertaining the grade of a sample unit.
52.2256 Ascertaining the rating for the factors which are scored.
52.2257 Color.
52.2258 Defects.
52.2259 Flavor.

EXPLANATIONS AND METHODS OF ANALYSES

52.2260 Definitions of terms and methods of analyses.

LOT COMPLIANCE

52.2261 Ascertaining the grade of a lot.

SCORE SHEET

52.2262 Score sheet for canned concentrated orange juice.

AUTHORITY: The provisions of this subpart issued under secs. 202–208, 60 Stat. 1087, as amended; 7 U.S.C. 1621–1627.

PRODUCT DESCRIPTION, STYLES, GRADES

§ 52.2251 Product description.

Canned concentrated orange juice (or canned orange juice concentrate) is the product as defined in the standards of identity (21 CFR 27.110) issued pursuant to the Federal Food, Drug, and Cosmetic Act.

§ 52.2252 Styles.

(a) *Without sweetener.* The Brix value of the finished concentrate is not less than 41.8 degrees and shall be such that when reconstituted according to directions, the reconstituted juice tests not less than 11.8 degrees Brix.

(b) *With sweetener.* The Brix value of the finished concentrate is not less than 42.0 degrees and shall be such that, when diluted according to directions, the reconstituted juice contains not less than 11.8 percent, by weight, of soluble orange solids.

§ 52.2253 Grades.

(a) "U.S. Grade A" (or "U.S. Fancy") is the quality of canned concentrated orange juice that reconstitutes properly and of which the reconstituted juice: (1) has an appearance reasonably characteristic of fresh orange juice, (2) has a very good color, (3) is practically free from defects, (4) possesses a good flavor, and (5) scores not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

(b) "U.S. Grade C" (or "U.S. Standard") is the quality of canned concentrated orange juice that reconstitutes properly and of which the reconstituted juice: (1) has a fairly good color, (2) is fairly free from defects, (3) possesses a fairly good flavor, and (4) scores not less than 80 points when scored in accordance with the scoring system outlined in this subpart.

(c) "Substandard" is the quality of canned concentrated orange juice that fails to meet the requirements of U.S. Grade C.

FILL OF CONTAINER

§ 52.2254 Recommended fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that the container be as full of canned concentrated orange juice as practicable without impairment of quality.

FACTORS OF QUALITY

§ 52.2255 Ascertaining the grade of a sample unit.

(a) *General.* The grade of a sample unit of canned concentrated orange juice is ascertained by considering the faculty of reconstituting properly and the appearance of the reconstituted juice, which are not scored; the ratings for the factors of color, defects, and flavor which are scored; the total score; and the limiting rules which may be applicable.

(b) *Factors rated by score points.* The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors:	Points
Color	40
Defects	20
Flavor	40
Total score	100

§ 52.2256 Ascertaining the rating for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, "18 to 20 points" means 18, 19, or 20 points).

§ 52.2257 Color.

(a) *Evaluation of color.* (1) The color of canned concentrated orange juice is evaluated by comparing the color of the product with the USDA Orange Juice Color Standards so that the color standards become points of reference.

(2) Such comparison is made under an artificial light source of approximately 150 candela intensity and having a spectral quality approximating that of daylight under a moderately overcast sky and a color temperature of 7500 degrees Kelvin, ±200 degrees.

(3) The USDA Orange Juice Color Standards range from yellow-orange to yellow color, with USDA OJ 1 being the most orange color in the series.

(b) *Procedure in evaluating color.* (1) Place the reconstituted product in a clear glass test tube of 1 inch diameter.

(2) Arrange color standards in a test tube rack or similar device so that light coming from above strikes the standards at a 45 degree angle. The standards are inclined at a 45 degree angle against a neutral grey background. Observe the standards and product at right angles to the tubes.

(3) Classify the color by inserting the tube of reconstituted juice where it best fits in the series of color standards. Orange juice differing in color and brightness from the most nearly matching USDA Orange Juice Color Standard is evaluated by considering the amount of difference and its effect on the total appearance of the juice.

(c) *Availability of color standards.* The USDA Orange Juice Color Standards cited in this section are official color standards which may also be applied to other orange juices. Information regarding these color standards, and their availability, may be obtained from:

Processed Products Standardization and Inspection Branch,
Fruit and Vegetable Division,
Agricultural Marketing Service,
U.S. Department of Agriculture,
Washington, D.C. 20250.

(d) (*A*) *Classification.* Canned concentrated orange juice of which the reconstituted juice possesses a very good color may be given a score of 36 to 40

points. "Very good color" means a very good yellow to yellow-orange color that is bright and typical of rich-colored orange juice. Canned concentrated orange juice that meets this criterion may be assigned score points in accordance with the following schedule:

As compared with USDA Orange Juice Color Standards:	Score
Equal to or better than USDA OJ 2	40 points
Equal to or better than USDA OJ 3	39 points
Much better than USDA OJ 4	38 points
Equal to or slightly better than USDA OJ 4	37 points
Equal to or better than USDA OJ 5	36 points

(e) (*C*) *Classification.* If the reconstituted juice possesses a fairly good color, a score of 32 to 35 points may be given. Canned concentrated orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly good color" means that the reconstituted juice may be slightly amber or very light in color and may show evidence of slight browning but is not off color for any reason. Canned concentrated orange juice that meets this criterion may be assigned score points in accordance with the following schedule:

As compared with USDA Orange Juice Color Standards:	Score
Better than USDA OJ 6, not as good as USDA OJ 5	35 points
Equal to USDA OJ 6	34 points
Not as good as USDA OJ 6	33 or 32 points

(f) (*SStd.*) *Classification.* If the reconstituted juice fails to meet the requirements of paragraph (e) of this section a score of 0 to 31 points may be given. Canned concentrated orange juice that falls into this classification shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2258 Defects.

(a) *General.* The factor of defects concerns the degree of freedom from small seeds and portions thereof; from discolored specks, white flakes, harmless extraneous material, and other similar defects; from recoverable oil; and from juice sacs and particles of membrane, core, and peel in excess of that normally present in orange juice.

(b) *Definitions*—(1) *Small seeds and portions thereof.* "Small seeds and portions thereof" means seed, whether fully developed or not, and particles of seed that could pass readily through round perforations ⅛ inch (3.2 mm.) in diameter.

(2) *Recoverable oil.* "Recoverable oil" means oil recoverable by the method outlined in this subpart.

(c) (*A*) *Classification.* Canned concentrated orange juice of which the reconstituted juice is practically free from defects may be given a score of 18 to 20 points. "Practically free from defects" means that any combination of defects present may no more than slightly detract from the appearance or drinking quality of the juice. To score in this classification the canned concentrated orange juice shall contain a trace but not more than 0.0024 milliliter of recoverable oil per degree Brix value per 100 grams of the concentrate.

(d) (*C*) *Classification.* If the reconstituted juice is reasonably free from defects, a score of 16 or 17 points may be given. Canned concentrated orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Reasonably free from defects" means that any combination of defects present may not seriously detract from the appearance or drinking quality of the juice. To score in this classification the canned concentrated orange juice may contain not more than 0.003 milliliter of recoverable oil per degree Brix value per 100 grams of the concentrate.

(e) (*SStd.*) *Classification.* Canned concentrated orange juice that fails to meet the requirements of paragraph (d) of this section may be given a score of 0 to 15 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2259 Flavor.

(a) (*A*) *Classification.* Canned concentrated orange juice of which the reconstituted juice possesses a good flavor may be given a score of 36 to 40 points. "Good flavor" means a distinct orange juice flavor, typical of reconstituted orange juice from properly processed and concentrated orange juice. To score in this classification the concentrate shall meet the following limits for the respective style:

(1) *Without sweetener.* Brix value to acid ratio—not less than 11.5 to 1 nor more than 18 to 1.

(2) *With sweetener.* Brix value to acid ratio—not less than 12.0 to 1 nor more than 18 to 1.

(b) (*C*) *Classification.* If the reconstituted juice possesses a fairly good flavor, a score of 32 to 35 points may be given. Canned concentrated orange juice that falls into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). "Fairly good flavor" mean that the flavor is normal for reconstituted canned concentrated orange juice and may have a slightly caramelized or slightly oxidized flavor but is free from abnormal flavors and off flavors of any kind. To score in this classification the canned concentrated orange juice shall meet the following requirements for the respective style:

(1) *Without sweetener.* Brix value to acid ratio—not less than 9.5 to 1 nor more than 20 to 1.

(2) *With sweetener.* Brix value to acid ratio—not less than 10 to 1 nor more than 20 to 1.

(c) (*SStd.*) *Classification.* If the canned concentrated orange juice fails to meet the requirements of paragraph (b) of this section, a score of 0 to 31 points may be given, canned concentrated orange juice that falls into this classification shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

EXPLANATIONS AND METHODS OF ANALYSES

§ 52.2260 Definitions of terms and methods of analyses.

(a) *Reconstituted juice.* "Reconstituted juice" means the product obtained by thoroughly mixing the concentrate with the amount of water prescribed on the label or other appropriate directions.

(b) *Reconstitutes properly.* "Reconstitutes properly" means that the concentrate goes into solution readily; and that in approximately 250 ml. of the reconstituted juice, after standing four (4) hours at a temperature of not less than 68 degrees Fahrenheit in a clear glass cylinder (approximately 1¼ inches (3 cm.) in diameter), there may be a noticeable separation of suspended matter but any resulting zone of greater clarity shall be definitely turbid and not clear or transparent.

(c) *Acid.* "Acid" means the percent by weight of total acidity, calculated as anhydrous citric acid. Total acidity is determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.

(d) *Brix value.* "Brix value" in canned concentrated orange juice is the refractometric sucrose value determined in accordance with the "International Scale of Refractive Indices of Sucrose Solutions" and to which the applicable correction for acid is added (see Table I of this subpart for corrections). The measurement of Brix value is determined on the concentrate in accordance with the refractometric method for sugars and sugar products, outlined in the "Official Methods of Analysis of the Association of Official Agricultural Chemists."

(e) *Brix value-acid ratio.* The Brix value-acid ratio is the ratio of the Brix value of the concentrate in degrees Brix to the grams of anhydrous citric acid per 100 grams of concentrate.

TABLE I [1]—CORRECTIONS FOR OBTAINING BRIX VALUE

Citric acid, anhydrous (percent by weight):	*Correction to be added to refractometer sucrose value to obtain degree Brix value*
2.0	0.39
2.2	.43
2.4	.47
2.6	.51
2.8	.54
3.0	.58
3.2	.62
3.4	.66
3.6	.70
3.8	.74
4.0	.78
4.2	.81
4.4	.85
4.6	.89
4.8	.93
5.0	.97

[1] Source: "Refractometric Determination of Soluble Solids in Citrus Juices," by J. W. Stevens and W. B. Baier, from the Analytical Edition of Industrial and Engineering Chemistry, Vol. II, Page 447, August 15, 1939.

(f) *Recoverable oil.* "Recoverable oil" is determined by the following method:

(1) *Equipment.* Oil separatory trap similar to either of those illustrated in Figure 1[2] or Figure 2.[2]

Gas burner or hot plate.
Ringstand and clamps.
Rubber tubing.
3-liter narrow-neck flask.

(2) *Procedure.* (i) Place exactly 400 grams of the concentrate, mixed with water to approximately two liters, in a 3-liter flask. Close the stopcock, place distilled water in the graduated tube, run cold water through the condenser from the bottom to top, and bring the solution to a boil. Continue boiling for one hour at the rate of approximately 50 drops per minute.

(ii) By means of the stopcock, lower the oil into the graduated portion of the separatory trap. Remove the trap from the flask, allow it to cool, and record the amount of oil recovered.

(iii) The milliliters of recoverable oil per degree Brix value per 100 grams of the concentrate is determined as follows:

$$\text{ml. recoverable oil per degree Brix value per 100 grams conc.} = \frac{\text{ml. recovered oil}}{4\ (\text{Brix value of concentrate})}$$

LOT COMPLIANCE

§ 52.2261 Ascertaining the grade of a lot.

The grade of a lot of canned concentrated orange juice covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 to 52.87).

SCORE SHEET

§ 52.2262 Score sheet for canned concentrated orange juice.

Size and kind of container	
Container mark or identification (Cans / Cases)	
Label (including dilution factor, if any)	
Liquid measure (fluid ounces)	
Vacuum (inches)	
Brix value (of concentrate)	
Style	
Total acidity:	
As anhydrous citric	
Percent by weight	
Brix value-acid ratio (:1)	
Recoverable oil (ml./100 gm./degree Brix val.)	
Reconstitutes properly: (yes) (no)	
Appearance of fresh juice: (yes) (no)	

Factors		Score points
Color	40	(A) 36–40 (C) [1] 32–35 (SStd.) [1] 0–31
Defects	20	(A) 18–20 (C) [1] 16–17 (SStd.) [1] 0–15
Flavor	40	(A) 36–40 (C) [1] 32–35 (SStd.) [1] 0–31
Total score	100	
Grade		

[1] Indicates limiting rule.

[F.R. Doc. 64–11701; Filed, Nov. 16, 1964; 8:49 a.m.]

[2] Filed as part of the original document.

Chapter IX—Agricultural Marketing Service (Marketing Agreements and Orders; Fruits, Vegetables, Tree Nuts), Deparment of Agriculture

[Amdt. 1]

PART 945—IRISH POTATOES GROWN IN CERTAIN DESIGNATED COUNTIES IN IDAHO AND MALHEUR COUNTY, OREGON

Limitation of Shipments

Findings. (a) Pursuant to Marketing Agreement No. 98 and Order No. 945, as amended (7 CFR Part 945), regulating the handling of Irish potatoes grown in the production area defined therein, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 et seq.), and upon the basis of recommendations and information submitted by the Idaho-Eastern Oregon Potato Committee, established pursuant to the said marketing agreement and order, and other available information, it is hereby found that the amendment to the limitation of shipments hereinafter set forth, will tend to effectuate the declared policy of the act.

(b) It is hereby found that it is impracticable and contrary to the public interest to give preliminary notice or engage in public rule making procedure, and that good cause exists for not postponing the effective date of this amendment until 30 days after publication in the FEDERAL REGISTER (5 U.S.C. 1003) in that (1) shipments of 1964 crop potatoes grown in the production area are now being made, (2) compliance with this amendment will not require any special preparation by handlers which cannot be completed by the effective date, (3) information regarding the committee's recommendation has been made to producers and handlers in the production area, and (4) this amendment relieves restrictions on the handling of potatoes in the production area.

Order, as amended. Amend paragraph (a) of § 945.323 (29 F.R. 8161) to read as follows:

§ 945.323 Limitation of shipments.

(a) *Minimum quality requirements—*(1) *Grade.* All varieties—U.S. No. 2, or better grade.

(2) *Size—*(i) *Round red varieties.* 1⅞ inches minimum diameter: *Provided,* That any lot of potatoes that meets the requirements of the U.S. No. 2 grade only may be shipped if they are 1½ inches minimum diameter.

(ii) *All other varieties.* 2 inches minimum diameter or 4 ounces minimum weight: *Provided,* That any lot of potatoes that meets the requirements of U.S. No. 2 grade only may be shipped if they are 1½ inches minimum diameter.

(iii) *All varieties.* Size B.

(3) *Cleanliness—*(i) *Kennebec variety.* Not more than "slightly dirty."

(ii) *All other varieties.* "Generally fairly clean."

* * * * *

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601 et seq.)

Dated: November 12, 1964, to become effective November 16, 1964.

F. L. SOUTHERLAND,
Acting Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[F.R. Doc. 64–11702; Filed, Nov. 16, 1964; 8:49 a.m.]

Title 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 40—LICENSING OF SOURCE MATERIAL

Exemption of Glass Enamel and Glass Enamel Frit Containing Source Material

On July 3, 1964 the Commission published in the FEDERAL REGISTER (29 F.R. 8431) a proposed amendment of § 40.13(c)(2), 10 CFR Part 40, which exempts from licensing glazed ceramic tableware and glassware containing not more than stated percentages of source material, to add glass enamel and glass enamel frit containing not more than 10 percent by weight source material to the exemption. The proposed amendment would also amend § 40.13(c)(2) so that the percentages in the existing exemption for source material in glassware and tableware would be specified in terms of weight. All interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within sixty days after publication of the notice in the FEDERAL REGISTER. After consideration of the comments received, the Commission has decided to adopt the proposed amendment, without change, as an effective rule.

Section 150.15(a)(6), 10 CFR Part 150, provides that persons in agreement States[1] are not exempt from the Commission's licensing and regulatory requirements with respect to "The transfer of possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material, intended for use by the general public." The Commission has determined that glass enamel and glass enamel frit are products intended for use by the general public. Accordingly, the transfer of possession or control by the manufacturer of such products would not be subject to the licensing and regulatory authority of an agreement State.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the follow-

[1] States to which the Commission has transferred certain regulatory authority over radioactive material by formal agreement pursuant to section 274 of the Atomic Energy Act of 1954, as amended.

ing amendment of Title 10, Chapter I, Part 40, Code of Federal Regulations, is published as a document subject to codification to be effective thirty (30) days after publication in the FEDERAL REGISTER.

Section 40.13(c)(2) is amended to read as follows:

§ 40.13 Unimportant quantities of source material.

* * * * *

(c) * * *

(2) Source material contained in the following products: (i) glazed ceramic tableware, provided that the glaze contains not more than 20 percent by weight source material; (ii) glassware, glass enamel and glass enamel frit containing not more than 10 percent by weight source material; but not including commercially manufactured glass brick, pane glass, ceramic tile or other glass, glass enamel or ceramic used in construction;

* * * * *

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201. Interpret or apply sec. 62, 68 Stat. 932; 42 U.S.C. 2092)

Dated at Washington, D.C., this 2d day of November 1964.

For the Atomic Energy Commission.

W. B. McCOOL,
Secretary to the Commission.

[F.R. Doc. 64-11647; Filed, Nov. 16, 1964; 8:45 a.m.]

Title 19—CUSTOMS DUTIES

Chapter I—Bureau of Customs, Department of the Treasury

[T.D. 56302]

PART 1—CUSTOMS DISTRICTS, PORTS, AND STATIONS

Customs Station at Hogansburg, N.Y.; Supervision

The Customs station at Hogansburg, New York, formerly under the supervision of the port of entry of Rooseveltown, New York, has, since the revocation of the port of entry of Rooseveltown and the designation of the port of entry of Massena, N.Y., by Treasury Decision 54834 (24 F.R. 3109), been under the supervision of the port of Massena. To reflect this change, § 1.2(d) is hereby amended by substituting "Massena" for "Rooseveltown" in the column headed "Port of Entry having supervision" for Hogansburg, New York, in District No. 7.

(R.S. 161, as amended 251; 5 U.S.C. 22, 19 U.S.C. 66)

[SEAL] LESTER D. JOHNSON,
Acting Commissioner of Customs.

Approved: November 9, 1964.

JAMES POMEROY HENDRICK,
Acting Assistant Secretary of the Treasury.

[F.R. Doc. 64-11680; Filed, Nov. 16, 1964; 8:48 a.m.]

Title 21—FOOD AND DRUGS

Chapter I—Food and Drug Administration, Department of Health, Education, and Welfare

PART 3—STATEMENTS OF GENERAL POLICY OR INTERPRETATION

Aminopyrine or Dipyrone Drug Preparations for Human Use; Directions and Warnings

Pursuant to the provisions of the Federal Food, Drug, and Cosmetic Act (secs. 502(f), 701(a), 52 Stat. 1051, 1055; 21 U.S.C. 352(f), 371(a)), and under the authority delegated to the Commissioner of Food and Drugs by the Secretary of Health, Education, and Welfare (21 CFR 2.90; 29 F.R. 471), Part 3 is amended by adding thereto a new section as follows:

§ 3.44 Aminopyrine or dipyrone drug preparations for human use; directions and warnings.

(a) Because of the increasing number of reports of fatal agranulocytosis associated with the use of aminopyrine (4-dimethylamino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one) and dipyrone (1-phenyl-2,3-dimethyl-5-pyrazolone-4-methylaminomethanesulfonate sodium), the Commissioner of Food and Drugs convened an ad hoc Committee on Aminopyrine and Dipyrone. The members of the committee consisted of authorities in the fields of hematology, internal medicine, neurology, pediatrics, and pharmacology. This committee considered the questions of safety and effectiveness of aminopyrine and dipyrone and reported its findings and recommendations to the Commissioner of Food and Drugs. Copies of the committee's report and recommendations are available upon request, directed to the Office of Public Information, Food and Drug Administration, Washington, D.C., 20204. The committee found:

(1) Aminopyrine and dipyrone, a derivative of aminopyrine, are capable of causing and have caused fatal agranulocytosis.

(2) Relatively small amounts of these drugs given intermittently over a period of time, as well as regular and continued administration, can precipitate the reaction of agranulocytosis.

(3) In most instances, other antipyretics and analgesics that are much safer should be used in preference to aminopyrine or dipyrone.

(4) The only conditions in which aminopyrine or dipyrone are known to be possibly indicated are febrile convulsions in children, where a parenteral antipyretic may be needed, and in rare instances of Hodgkin's disease and similar malignant diseases in which the fever cannot be controlled by any other means.

(b) The committee summarized its recommendations as follows:

1. It is recommended that aminopyrine and dipyrone for the present be retained on the market, but that the following statements be included in the labeling of the drugs:

All brochures, mailing pieces, detail pieces, advertising, and other labeling should contain the following paragraphs, in this order:

Warning—THIS DRUG MAY CAUSE FATAL AGRANULOCYTOSIS. (This should immediately follow the name of the drug.)

Caution—This drug should be used only in those conditions in which it is specifically indicated and in which other less toxic drugs have proved ineffective or are not tolerated. The potential benefit accruing from the use use of this drug must be weighed against the possibility of fatal agranulocytosis.

Indications for use. Aminopyrine and aminopyrine derivates (dipyrone preparations) should be restricted for use in serious or life-threatening situations were salicylates or similar drugs are known to be ineffective or are contraindicated or not tolerated.

Duration of administration. Fatal agranulocytosis has been reported after short-term use, intermittent use, and after long-term administration. Therefore, the use of these agents should be as brief as possible.

Precautions. Frequent white blood cell and differential counts should be carried out. However, it is emphasized that agranulocytosis may occur precipitously without prior warning. The drug should be discontinued at the first evidence of any alteration of the blood count or sign of agranulocytosis, and the patient should be instructed to discontinue use of the drug at the first indication of sore throat or sign of other infection in the mouth or throat (pain, swelling, tenderness, ulceration).

Dosage. Adults: The usual antipyretic dose should not exceed ½ to 1 gram per dose, nor should more than 3 grams total daily dosage be used. If the desired effect is not achieved within a very few days, use of the drug should be discontinued.

Children: 250 to 500 milligrams per dose, repeated in 3 to 4 hours if necessary. Use of the drug should be as brief as possible.

2. It is recommended that every effort be made through educational media to emphasize the identical nature of aminopyrine and dipyrone insofar as toxicity is concerned.

3. It is further recommended that the official name of dipyrone be changed to aminopyrinesulfonate sodium, if possible. The purpose of this is to achieve the objective of Item 2 above.

4. The committee suggests that the panel be recalled by the Commissioner of the Food and Drug Administration within approximately one year after these recommendations have been fully implemented. The purpose of such a meeting would be to ascertain whether the use of dipyrone and aminopyrine and the cases of fatal agranulocytosis associated with the use of these drugs had been noticeably reduced by the method proposed. If the recommended labeling changes do not have the desired effect, other recommendations would need to be considered at that time.

(c) The committee also decided that a letter should be sent to all physicians to remind them of the close similarity and toxicity of aminopyrine and dipyrone.

(d) On the basis of the available evidence, including the findings and recommendations of the committee, the Commissioner of Food and Drugs finds and determines with respect to any drug preparation intended for administration to man that contains aminopyrine or dipyrone:

(1) Such drugs are unsafe and are regarded as misbranded within the meaning of section 502(f)(1) and (2) and section 502(j) of the Federal Food,

Drug, and Cosmetic Act when labeled or advertised for routine use as antipyretics or analgesics.

(2) Regulatory proceedings may be initiated with regard to the continued marketing of any such preparations with labeling or advertising offering such drugs for routine use as antipyretics or analgesics.

(3) Such preparations may be approved as safe and effective for marketing on the basis of new-drug applications containing labeling to the following effect, which labeling differs substantially from the labeling that has been commonly employed for many years in the marketing of such drugs:

(i) The label and labeling of the drug contains prominently and conspicuously, immediately following the trade name of the drug, without any intervening written, printed or graphic matter, the following:

(*a*) A quantitative declaration of the aminopyrine content; or

(*b*) A quantitative declaration of the dipyrone content with the name "dipyrone" followed immediately and conspicuously in parentheses by the declaration "aminopyrine derivative"; and

(*c*) The statement "Warning:—This drug may cause fatal agranulocytosis."

(ii) Labeling on or within the package from which the drug is to be dispensed and any other labeling for the drug that furnishes or purports to furnish information for use, or which prescribes, recommends, or suggests a dosage for the use of the drug, bears, in addition to the information required in this subparagraph, information to the following effect:

WARNING—THIS DRUG MAY CAUSE FATAL AGRANULOCYTOSIS.

CAUTION: This drug should be used only in those conditions in which it is specifically indicated and in which other less toxic drugs have proved ineffective or are not tolerated. The potential benefit accruing from the use of this drug must be weighed against the possibility of fatal agranulocytosis.

Indications for use. Aminopyrine and aminopyrine derivatives (dipyrone preparations) should be restricted to use for their antipyretic effect in serious or life-threatening situations where salicylates or similar drugs are known to be ineffective or are contraindicated or not tolerated.

Duration of administration. Fatal agranulocytosis has been reported after short-term use, intermittent use, and after long-term administration. Therefore, the use of these agents should be as brief as possible.

Precautions. Frequent white blood cell and differential counts should be carried out. However, it is emphasized that agranulocytosis may occur precipitously without prior warning. The drug should be discontinued at the first evidence of any alteration of the blood count or sign of agranulocytosis, and the patient should be instructed to discontinue use of the drug at the first indication of sore throat or sign of other infection in the mouth or throat (pain, swelling, tenderness, ulceration).

Dosage. Adults: The usual antipyretic dose should not exceed ½ to 1 gram per dose, nor should more than 3 grams total daily dosage be used. If the desired effect is not achieved within a very few days, use of the drug should be discontinued.

Children: 250 to 500 milligrams per dose, repeated in 3 to 4 hours if necessary. Use of the drug should be as brief as possible.

(4) A new-drug application for such a preparation should include a commitment that all advertising for the drug will bear the information required by subparagraph (3)(i) of this paragraph, and that any advertisement that provides any information regarding indications or dosage recommendations will include the information required to appear in the package labeling by subparagraph (3)(ii) of this paragraph and will not recommend or suggest use of the drug under any other conditions.

(5) A new-drug application will be regarded as approvable if it contains satisfactory information of the kinds required by items 2, 3, 4, 6, 7 and 9 of the new-drug application form contained in § 130.4(c) of this chapter.

(6) Regulatory proceedings may be initiated with regard to the interstate shipment of any such preparations labeled or advertised contrary to this statement of policy.

(7) No regulatory proceedings will be initiated with regard to the continued marketing of preparations of aminopyrine or dipyrone under labeling and advertising complying with this section; *Provided,* That within 90 days from the date of publication of this statement of policy in the FEDERAL REGISTER:

(i) The manufacturer, packer, or distributor of the drug submits a satisfactory new-drug application covering the marketing of the article in accord with this section; and

(ii) The applicant, starting from the thirtieth day after publication of this statement in the FEDERAL REGISTER, maintains records and submits reports in compliance with the provisions of § 130.13 of this chapter, including reports within intervals of 3 months during the first year; 6 months during the second year; and at yearly intervals thereafter.

(Secs. 502(f), (j), 701(a); 52 Stat. 1051, 1055; 21 U.S.C. 352(f), (j), 371(a))

Dated: November 10, 1964.

GEO. P. LARRICK,
Commissioner of Food and Drugs.

[F.R. Doc. 64-11645; Filed, Nov. 16, 1964; 8:45 a.m.]

Title 24—HOUSING AND HOUSING CREDIT

Chapter II—Federal Housing Administration, Housing and Home Finance Agency

SUBCHAPTER A—GENERAL

PART 200—INTRODUCTION

Subpart D—Delegations of Basic Authority and Functions

ASSISTANT COMMISSIONER-COMPTROLLER AND DEPUTY, AND FINANCE COMMITTEE

In § 200.77 paragraph (h) is amended to read as follows:

§ 200.77 Assistant Commissioner-Comptroller and Deputy.

* * * * *

(h)(1) To submit to the Treasury Department authorizations for:

(i) Investment of moneys held in the various insurance funds, not needed for the current operations of the FHA, in bonds or other obligations of the United States, or in bonds or other obligations guaranteed as to principal and interest by the United States, and

(ii) The redemption or sale of investments in bonds or other obligations of the United States, or in bonds or other obligations guaranteed as to principal and interest by the United States, representing undisbursed mortgage proceeds relating to multifamily mortgages assigned to the Commissioner; and

(2) To recommend liquidation of investments and redemption of debentures, to execute assignments in connection with the redemption of debentures held for the account of the insurance funds of the FHA, and to maintain liaison with the Treasury Department in the execution of fiscal proposals.

* * * * *

In § 200.90 paragraph (b)(1) is revoked as follows:

§ 200.90 Finance Committee.

* * * * *

(b) *Functions.* * * *

(1) [Revoked]

* * * * *

(Sec. 2, 48 Stat. 1246, as amended; sec. 211, 52 Stat. 23, as amended; sec. 607, 55 Stat. 61, as amended; sec. 712, 62 Stat. 1281, as amended; sec. 907, 65 Stat. 301, as amended; sec. 807, 69 Stat. 651, as amended; 12 U.S.C. 1703, 1715b, 1742, 1747k, 1748f, 1750f)

Issued at Washington, D.C., November 12, 1964.

PHILIP J. MALONEY,
Acting Federal Housing Commissioner.

[F.R. Doc. 64-11688; Filed, Nov. 16, 1964; 8:48 a.m.]

Title 26—INTERNAL REVENUE

Chapter I—Internal Revenue Service, Department of the Treasury

SUBCHAPTER A—INCOME TAX

[T.D. 6770]

PART 1—INCOME TAX; TAXABLE YEARS BEGINNING AFTER DECEMBER 31, 1953

Treatment of Amounts Received Under Wage Continuation Plans

On June 30, 1964, notice of proposed rule making regarding the Income Tax Regulations (26 CFR Part 1) under sections 72 and 105 of the Internal Revenue Code of 1954 to reflect the amendment made by section 205 of the Revenue Act of 1964 (Public Law 88-272, 78 Stat. 38) and to make certain other changes, was published in the FEDERAL REGISTER (29 F.R. 8223). After consideration of all such relevant matter as was presented by interested persons regarding the rules proposed, the amendments to the regulations as so proposed are hereby adopted, subject to the changes set forth in paragraphs 1 and 2 below. Paragraph 4 of this Treasury decision amends the Income Tax Regulations to reflect the amendment to section 512 of the

Internal Revenue Code of 1954 made by the Act of July 17, 1964 (Public Law 88–380, 78 Stat. 333).

PARAGRAPH 1. Section 1.105 as set forth in paragraph 2 of the notice of proposed rule making, is amended by revising the historical note.

PAR. 2. Section 1.105–4 as set forth in paragraph 3 of the notice of proposed rule making, is amended by revising subparagraphs (5) and (6)(iv) of paragraph (e), examples (1) and (2) of paragraph (f)(2), and by adding example (3) to paragraph (f)(2).

PAR. 3. Section 1.512(b) is amended by adding a new paragraph (14) at the end of section 512(b) and by revising the historical note.

[SEAL] BERTRAND M. HARDING,
Acting Commissioner of Internal Revenue.

Approved: November 9, 1964.

STANLEY S. SURREY,
Assistant Secretary of the Treasury.

In order to conform the Income Tax Regulations (26 CFR Part 1) under sections 72 and 105 of the Internal Revenue Code of 1954 to section 205 of the Revenue Act of 1964 (Public Law 88–272, 78 Stat. 38), and to make certain other changes, such regulations are amended as follows:

PARAGRAPH 1. Paragraph (c)(1) and examples (1) and (2) of paragraph (f) of § 1.72–15 are amended to read as follows:

§ 1.72–15 Applicability of section 72 to accident or health plans.

* * * * *

(c) *Accident or health benefits attributable to employee contributions.* (1) If a plan to which this section applies provides that any portion of the accident or health benefits is attributable to the contributions of the employee to such plan, then such portion of such benefits is excludable from gross income under section 104(a)(3) and paragraph (d) of § 1.104–1. Neither section 72 nor section 105 applies to any accident or health benefits (whether paid before or after retirement) attributable to contributions of the employee. Since such portion is excludable under section 104(a)(3), such portion is not subject to the dollar limitation of section 105(d) and if such portion is payable after the retirement of the employee, it is excludable without regard to the provisions of § 1.105–4 and section 72.

* * * * *

(f) *Examples.* * * *

Example (1). A, an employee, is a participant in a contributory pension plan described in section 401(a) and exempt under section 501(a). Such plan provides for the payment of a pension to each participant when he retires at age 65 or when he retires earlier if the retirement is due to permanent and total disability. In 1964, A, who was age 52, became totally and permanently disabled because of an injury, was hospitalized, and commenced to receive a pension of $74 a week under this plan. The weekly amounts received by A do not exceed 75 percent of his "regular weekly rate of wages" under section 105(d). A had contributed $11,500 to the plan. The plan does not expressly provide that any portion of the disability pension is purchased with employee contributions. Accordingly, it is presumed that no portion of the disability pension is purchased with A's contributions. The disability pension which A receives qualifies as payments under a wage continuation plan for purposes of section 105(d) and § 1.105–4, and if such payments are the only accident or health benefits which are attributable to the contributions of his employer, such payments are entirely excludable under section 105(d) until A reaches age 65, his normal retirement age under the plan. The payments which A receives after he becomes age 65 are taxable under section 72. The payments which A receives do constitute an annuity as defined in paragraph (b) of § 1.72–2, but since the amounts which he will receive during the first three years after attaining age 65 exceed his contributions, he shall exclude under § 1.72–13 the entire amount of all payments that he receives as an annuity after attaining age 65 until such amounts equal his contributions to the plan, or $11,500. Thereafter, the payments that he receives under the plan are includible in gross income.

Example (2). B, an employee, is a participant in a contributory profit-sharing plan described in section 401(a) and exempt under section 501(a). Such plan provides that, in the event a participant is absent from work because of a personal injury or sickness, he will be paid $125 a week out of his account in such plan. Such weekly amount does not exceed 75 percent of B's "regular weekly rate of wages" under section 105(d). Any amount standing to the account of a participant at the time of his separation from service will be paid to him at such time. During 1964, B incurred a personal injury, was hospitalized, and as a result was absent from work for nine weeks. He received nine weekly payments of $125, or a total of $1,125, on account of such absence from work. At the time B was injured, he had contributed $5,000 to the plan. The plan did not expressly provide that a participant's contributions are to be used to provide for the distributions during disability. Accordingly, it is presumed that B's contributions were not used to provide the accident or health benefits under the plan. Since these weekly payments are paid because of B's absence from work due to the injury, and since such payments are considered as attributable to contributions of his employer, such payments are required under section 105(a) to be included in B's gross income except to the extent that they are excludable under section 105(d). If B receives no other payments under a wage continuation plan attributable to contributions of his employer, during the first 30 days in the period of absence $75 of each weekly payment is excludable from gross income under section 105(d), but $50 of each weekly payment is includible in gross income under section 105(a). Amounts attributable to the period of absence in excess of 30 days are excludable from gross income under section 105(d) to the extent of $100 a week and includible in gross income under section 105(a) to the extent of $25 a week. The excludable portion of payments does not reduce B's investment in the contract or the amount of premiums considered to have been paid by B for purposes of any subsequent computations under section 72.

* * * * *

PAR. 2. Section 1.105 is amended by revising subsection (d) of section 105 and by adding a historical note. These amended and added provisions read as follows:

§ 1.105 Statutory provisions; amounts received under accident and health plans.

SEC. 105. *Amounts received under accident and health plans.* * * *

(d) *Wage continuation plans.* Gross income does not include amounts referred to in subsection (a) if such amounts constitute wages or payments in lieu of wages for a period during which the employee is absent from work on account of personal injuries or sickness; but this subsection shall not apply to the extent that such amounts exceed a weekly rate of $100. The preceding sentence shall not apply to amounts attributable to the first 30 calendar days in such period, if such amounts are at a rate which exceeds 75 percent of the regular weekly rate of wages of the employee (as determined under regulations prescribed by the Secretary or his delegate). If amounts attributable to the first 30 calendar days in such period are at a rate which does not exceed 75 percent of the regular weekly rate of wages of the employee, the first sentence of this subsection (1) shall not apply to the extent that such amounts exceed a weekly rate of $75, and (2) shall not apply to amounts attributable to the first 7 calendar days in such period unless the employee is hospitalized on account of personal injuries or sickness for at least one day during such period. If such amounts are not paid on the basis of a weekly pay period, the Secretary or his delegate shall by regulations prescribe the method of determining the weekly rate at which such amounts are paid.

* * * * *

[Sec. 105 as amended by sec. 7(e), Self-Employed Individuals Tax Retirement Act 1962 (76 Stat. 829); sec. 205, Rev. Act 1964 (78 Stat. 38)]

PAR. 3. Section 1.105–4 is amended by revising paragraphs (c), and (d)(1) exclusive of examples, and by adding new paragraphs (e), (f), and (g). These amended and added provisions read as follows:

§ 1.105–4 Wage continuation plans.

* * * * *

(c) *Limitation in the case of absence from work due to sickness for periods commencing prior to January 1, 1964.* (1) In the case of a period of absence from work on account of sickness commencing prior to January 1, 1964, the exclusion provided by section 105 (d) does not apply to amounts attributable to the first seven calendar days of each such period, unless the employee is hospitalized on account of sickness for at least one day during the period of absence from work. This 7-day rule applies to each period of absence from work because of sickness, regardless of the frequency of such absences or the closeness in time to any prior period of absence from work because of sickness. For example, employee A becomes absent from work because of sickness on Friday, October 4, 1963, and returns to work on the morning of Monday, October 14, 1963. He suffers a relapse and again becomes absent from work on the afternoon of Monday, October 14, 1963. A's return to work on the morning of Monday, October 14, 1963, terminates the first period of absence from work because of sickness, and a new period of absence from work because of sickness begins on the afternoon of Monday, October 14, 1963. The 7-day limitation does not apply if the absence from work is due to personal injury. These rules may be illustrated by the following examples:

Example (1). Employee C normally works five days (Monday through Friday) during each week. On Saturday, October 5, 1963 (a nonworking day), C becomes sick and as a

result, he does not return to work until Thursday, October 17, 1963. The period of absence from work due to sickness commences on Monday, October 7, 1963, and terminates when C returns to work on Thursday, October 17, 1963. If C is not hospitalized during such period of absence from work, section 105(d) does not apply to amounts which C receives under his employer's wage continuation plan attributable to the 7-day period commencing Monday, October 7, 1963, and ending Sunday, October 13, 1963, inclusive.

Example (2). Employee D incurs a personal injury which causes him to be absent from work two days. His regular wages are continued during this period in accordance with the wage continuation plan of his employer. Since D's absence from work was due to a personal injury, rather than a sickness, the 7-day waiting period does not apply, and, subject to the other requirements of section 105(d), D is entitled to an exclusion with respect to the amounts received under the employer's plan attributable to the 2-day period of absence.

(2) For the purpose of starting the 7-day waiting period, if the period of absence due to sickness commences after the start of a working day, the amount received with respect to the portion of such day that the employee is absent from work shall be considered the amount attributable to the first calendar day of the period of absence from work due to sickness. This rule may be illustrated by the following example:

Example. Employee E normally works from 9 a.m. until 5:30 p.m. on five days (Monday through Friday) during each week. From noon on Friday, September 6, 1963, until noon on Monday, September 16, 1963, E is absent from work on account of sickness but is not hospitalized at any time during this period. Section 105(d) does not apply to amounts received by E under his employer's wage continuation plan which are attributable to the calendar period beginning September 6, 1963, and ending September 12, 1963, inclusive. However, if the other requirements of section 105(d) are met, E may exclude from gross income amounts attributable to the period beginning September 13, 1963, and ending at noon on September 16, 1963, inclusive.

(3) If the absence from work is due to sickness, the amount attributable to the first seven calendar days of such absence includes all amounts paid for such seven calendar days, regardless of the number of work days included in such seven calendar days. For example, if on one of such seven calendar days an employee would have worked two 8-hour shifts, the amount he is paid for the two shifts is considered to be an amount attributable to only one calendar day.

(4) An employee is considered to be hospitalized for one day only if he is admitted to and confined in a hospital as a bed patient for at least one hospital day. Entry into a hospital as an in-and-out patient does not constitute hospitalization for purposes of section 105(d). The same applies to mere entry into the outpatient ward or the emergency ward of a hospital.

(d) *Exclusion not applicable to the extent that amounts exceed a weekly rate of $100 for periods of absence commencing prior to January 1, 1964*—(1) *In general.* Amounts received under a wage continuation plan, attributable to periods of absence commencing before January 1, 1964, which are not excludable from gross income as being attributable to contributions of the employee (see § 1.105–1) must be included in gross income under section 105(d) to the extent that the weekly rate of such amounts exceeds $100. Thus, an employee, who receives $50 under his employer's wage continuation plan on account of his being absent from work for two days due to a personal injury, cannot exclude the entire $50 under section 105(d) if the weekly rate of such benefits exceeds $100. If an employee receives payments under a wage continuation plan for less than a full pay period, the excludability of such payments shall be determined under subparagraph (2) of this paragraph. In all other cases, the weekly rate and excludability of such payments under a wage continuation plan shall be determined under subparagraph (3) of this paragraph. If, with respect to any pay period or portion thereof, the employee receives amounts under two or more wage continuation plans (whether such plans are maintained by or for the same employer or by different employers), the weekly rate and excludability of amounts received under each plan shall be determined under subparagraph (3) of this paragraph and the weekly rate for purposes of section 105(d) shall be the sum of all such weekly rates. This rule may be illustrated by the following examples:

* * * * *

(e) *Limitation in the case of absence from work on account of personal injury or sickness for periods commencing after December 31, 1963.* (1) In the case of periods of absence from work on account of sickness or personal injury commencing after December 31, 1963, the exclusion provided by section 105(d) does not apply to amounts attributable to the first 30 calendar days of each such period, if such amounts are at a rate which exceeds 75 percent of the employee's "regular weekly rate of wages", as determined under subparagraph (5) of this paragraph. If the amounts are at a rate of 75 percent or less of the employee's "regular weekly rate of wages", the exclusion provided by section 105(d) does not apply to amounts attributable to the first 7 calendar days of each such period, unless the employee is hospitalized on account of personal injury or sickness for at least one day during the period of absence from work. The 7- or 30-day waiting period (whichever is applicable) applies to each period of absence from work because of personal injury or sickness, regardless of the frequency of such absences or the closeness in time to any prior period of absence from work because of personal injury or sickness. The waiting period is to be counted by beginning with the first work day for which the employee was absent. These rules may be illustrated by the following examples:

Example (1). Employee A is absent from work because of sickness on Tuesday, January 7, 1964, and returns to work on the morning of Thursday, February 13, 1964. He suffers a relapse and again becomes absent from work on the afternoon of Thursday, February 13, 1964. A's return to work on the morning of Thursday, February 13, 1964, terminates the first period of absence from work because of sickness, and a new period of absence from work because of sickness begins on the afternoon of Thursday, February 13, 1964.

Example (2). Employee B normally works five days (Monday through Friday) during each week. On Saturday, January 11, 1964 (a nonworking day), B becomes sick or injured and as a result he does not return to work until Monday, February 17, 1964. The period of absence from work commences on Monday, January 13, 1964, and terminates when B returns to work on Monday, February 17, 1964. Assuming B receives amounts under his employer's wage continuation plan at a rate exceeding 75 percent of his "regular weekly rate of wages" (as determined under subparagraph (5) of this paragraph), the exclusion provided by section 105(d) does not apply to amounts B receives under his employer's wage continuation plan which are attributable to the 30-day period commencing Monday, January 13, 1964, and ending Tuesday, February 11, 1964, inclusive. If B receives amounts under his employer's wage continuation plan at a rate which is 75 percent or less of his "regular weekly rate of wages" and he is not hospitalized during the period of absence from work, the exclusion provided by section 105(d) does not apply to amounts B receives which are attributable to the 7-day period commencing Monday, January 13, 1964, and ending Sunday, January 19, 1964, inclusive.

Example (3). Employee C is sick or incurs a personal injury which causes him to be absent from work for two weeks. He receives amounts under his employer's wage continuation plan at a rate which is 75 percent or less of his "regular weekly rate of wages" (as determined under subparagraph (5) of this paragraph) and is hospitalized from the eighth through the eleventh day of his absence. Since C was hospitalized on account of personal injury or sickness for at least one day during the period of absence, the 7-day waiting period does not apply, and, subject to the other requirements of section 105(d), C is entitled to an exclusion with respect to the amounts received under his employer's plan attributable to the two-week period of absence. If C were receiving amounts under his employer's wage continuation plan at a rate exceeding 75 percent of his "regular weekly rate of wages", he would not be entitled to an exclusion under section 105(d).

(2) For the purpose of starting the 7- or 30-day waiting period, whichever is applicable, if the period of absence commences after the start of a working day, the amount received with respect to the portion of such day that the employee is absent from work shall be considered an amount attributable to the first calendar day of the period of absence from work. This rule may be illustrated by the following example:

Example. Employee D normally works from 9 a.m. until 5:30 p.m. on five days (Monday through Friday) during each week. From noon on Wednesday, January 8, 1964, until noon on Monday, February 17, 1964, D is absent from work on account of personal injury or sickness but is not hospitalized at any time during this period. D receives amounts under his employer's wage continuation plan at a rate not exceeding 75 percent of his "regular weekly rate of wages" (as determined under subparagraph (5) of this paragraph). Section 105(d) does not apply to amounts received by D under his employer's wage continuation plan which are attributable to the calendar period beginning January 8, 1964, and continuing through January 14, 1964, inclusive. However, if the other requirements of section 105(d) are met, D may exclude from gross

income amounts attributable to the remainder of the period of absence, ending at noon on Monday, February 17, 1964.

(3) If the exclusion is subject to a 7- or 30-calendar-day waiting period, any amount attributable to such 7- or 30-calendar-day waiting period includes all amounts paid therefor, regardless of the number of work days included in such 7 or 30 calendar days. For example, if on one of the days included in the waiting period, an employee would have worked two 8-hour shifts, the amount he is paid for the two shifts is considered to be attributable to only one calendar day.

(4) An employee is considered to be hospitalized for one day only if he is admitted to and confined in a hospital as a bed patient for at least one hospital day. Entry into a hospital as an in-and-out-patient does not constitute hospitalization for purposes of section 105(d). The same applies to mere entry into the out-patient ward or the emergency ward of a hospital.

(5) (i) In general, the "regular weekly rate of wages", for purposes of section 105(d), shall be the average weekly wages paid for the last four weekly periods falling within a full pay period or full pay periods immediately preceding the commencement of the period of absence. If the employee was absent from work for three or more normal working days during any such pay period, and the amount of wages paid for such pay period was less than the amount of wages paid for the immediately preceding pay period during which the employee was not absent from work for three or more normal working days, then the amount of wages paid for the weekly period or weekly periods falling wholly or partly within the pay period during which each such absence occurred shall not be used in the determination of "regular weekly rate of wages". In such a case, there shall be substituted the amount of wages paid for the last weekly period or weekly periods falling within the pay period or pay periods immediately preceding the pay period or pay periods in which such absence or absences occurred during which the employee was not absent from work for three or more normal working days.

(*a*) In order to compute wages paid for the last four weekly periods falling within a full pay period or full pay periods immediately preceding the commencement of the period of absence, or any substituted weekly periods therefor, it will be necessary to convert the wages paid for any pay period other than a weekly pay period into a weekly rate or weekly rates of payment of such wages in accordance with the rules stated in subdivision (iv) of this subparagraph. Such weekly rate or weekly rates of wage payments are then used in determining the wages for the last four weekly periods falling within a full pay period or full pay periods immediately preceding the commencement of the period of absence, or any substituted weekly periods therefor.

(*b*) If the employee does not have four weekly periods falling within a full pay period or full pay periods preceding his absence during which he was not absent from work for three or more normal working days, then the greatest number of available weekly periods shall be used, consistent with the rules set forth in this subdivision (i), in determining the "regular weekly rate of wages."

(*c*) If the employee has been employed for a full pay period or more preceding his absence, and has worked for the number of days in a normal work week, but was absent from work for three or more normal working days during each of the pay periods preceding his absence, then the "regular weekly rate of wages" shall be determined by multiplying the employee's actual wages paid for the total number of normal working days in the pay period immediately preceding the employee's absence by the number of days that the employee is expected to work in a normal work week, and by dividing the product by the number of normal work days in such pay period for which wages were paid.

(*d*) If the employee has not been employed for a full pay period preceding his absence, and has worked for the number of days in a normal work week, the "regular weekly rate of wages" shall be determined by multiplying the employee's actual wages paid for the total number of normal working days preceding the employee's absence by the number of days that the employee is expected to work in a normal work week, and by dividing the product by the number of normal work days for which wages were paid.

(*e*) If the employee has not worked the number of days in a normal work week, then there is no "regular weekly rate of wages," and the employee will not be permitted an exclusion under section 105(d) for amounts attributable to the first 30 calendar days in the period of absence.

(*f*) Wages paid by a former employer shall not be used in the determination of "regular weekly rate of wages" as described in this subparagraph.

(ii) In the case of a wage continuation plan of an employer under which the benefits are computed as a specified percentage of average wages, the formula for computing the employee's average wages included in the plan may be used (in lieu of the formula provided in subdivision (i) of this subparagraph) for determining the "regular weekly rate of wages" for purposes of section 105(d), if under the plan—

(*a*) The definition of wages does not include any items which are not considered "wages" as defined in subdivision (iii) of this subparagraph,

(*b*) The period for computing average wages is not less than twenty-eight successive calendar days, and does not end earlier than five months preceding the date on which the period of absence commences, and is one in which the employee was at work at least 35 percent of the normal working time, and

(*c*) The period and formula for computing average wages are applied uniformly with respect to all employees eligible to receive benefits under the plan. A plan will not fail to meet the conditions of this subdivision merely because different portions of the employee's wages are averaged over different periods for purposes of computing his average wages, so long as each such period meets the requirements in (*b*) and (*c*) of this subdivision.

(iii) For the purpose of determining "regular weekly rate of wages" under subdivision (i) or (ii) of this subparagraph, whichever is applicable, an employee's wages shall comprise basic salary, fees, commissions, tips, gratuities, overtime, and any other type of taxable compensation which is normally paid for services. However, wages shall not include any type of compensation which is not normally paid, such as bonuses and incentive payments. An employee's compensation, for the purpose of determining his "regular weekly rate of wages", will not include any compensation which is not currently includible in gross income. For example, an employee's wages for the purpose of this subdivision shall not include deferred compensation paid by the employer which is not includible in gross income until received by the employee, such as employer contributions to a qualified annuity under section 403(a), or employer contributions to an accident or health plan excluded under section 106.

(iv) The following rules shall be used to convert wages for pay periods other than weekly pay periods into weekly rates of wage payments to be used in determining "regular weekly rate of wages" as described in subdivision (i) of this subparagraph.

(*a*) If wages are paid biweekly, the weekly rate of wage payments shall be one-half of the biweekly wages paid.

(*b*) If the employee is paid semimonthly, the weekly rate of wage payments shall be the semimonthly wages paid multiplied by 24 and divided by 52.

(*c*) If wages are paid monthly, the weekly rate of wage payments shall be the monthly wages paid multiplied by 12 and divided by 52.

(*d*) If wages are paid on the basis of a pay period other than a period described in (*a*) through (*c*) of this subdivision, the weekly rate of wage payments shall be determined by ascertaining the annual rate of wage payments and dividing by 52.

(*e*) For the purpose of this subparagraph, if separate portions of an employee's wages are paid on the basis of different pay periods, the weekly rate or weekly rates of wage payments of each portion of wages paid with respect to each pay period shall first be determined under the rules set forth in (*a*) through (*d*) of this subdivision and the average weekly rate of each portion of wages, determined in accordance with the rules set forth in subdivision (*i*) of this subparagraph, shall be aggregated to determine the employee's "regular weekly rate of wages" for purposes of section 105(d).

(v) The provisions of subdivisions (i), (iii) and (iv) of this subparagraph may be illustrated by the following examples:

Example (*1*). Employee A is a salesman who is paid a basic salary of $60 per week and, in addition, is paid commissions on a

weekly basis. A became ill and did not report for work beginning Monday, February 17, 1964. For the four-week period preceding the commencement of the period of absence, A was paid the following:

Week of—	Basic salary	Commissions	Total weekly wages
Jan. 20, 1964	$60	$10	$70
Jan. 27, 1964	60	50	110
Feb. 3, 1964	60	30	90
Feb. 10, 1964	60	40	100
Total 4-week wages			370

A's wages, under the rules set forth in subdivision (iii) of this subparagraph, consist of basic salary plus commissions. Since the amount of A's average weekly wages paid for the last four weekly periods falling within the four pay periods immediately preceding the commencement of his period of absence from work is $92.50 ($370÷4), such amount is considered as the "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph) for purposes of section 105(d).

Example (2). Assume, in example (1), that A normally works five days during each week (Monday through Friday) and that he was also absent from work for any reason from Monday, February 3, 1964, through Wednesday, February 5, 1964. Since A was absent from work for three normal working days during the pay period of February 3, 1964, and was paid a lesser amount of wages for such pay period than in the immediately preceding pay period during which he was not absent from work (week of January 27), the weekly pay period beginning January 27, 1964 is substituted for the weekly pay period beginning February 3, 1964 in the determination of "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph) for purposes of section 105(d). The "regular weekly rate of wages" is calculated to be $97.50, as follows:

Week of:	*Total wages*
February 10	$100
January 27 (substitute for week of Feb. 3)	110
January 27	110
January 20	70

390÷4=$97.50

Example (3). Employee B is a salesman who is paid a basic salary of $75 and, in addition, is paid commissions for semi-monthly periods ending on the 15th day and the last day of each month. He was absent from work on account of a personal injury beginning Monday, February 17, 1964. He was paid the following amounts:

Pay period	Salary	Commissions	Total wages
Feb. 1–15, 1964	$75	$60	$135
Jan. 16–31, 1964	75	50	125

The four weekly periods falling within full pay periods preceding the commencement of the period of absence are the weeks beginning February 9, February 2, January 26, and January 19. B's wages are converted to weekly rates of wage payments per pay period in accordance with the rule set forth in subdivision (iv)(b) of this subparagraph as follows:

From February 1, 1964–February 15, 1964, inclusive:

$135×24=$3240.00 (annual rate)

$\frac{\$3240.00}{52}$=$62.31 (weekly rate)

From January 16–31, inclusive:

$125×24=$3000.00 (annual rate)

$\frac{\$3000.00}{52}$=$57.69 (weekly rate)

The weekly rates are then used in determining the wages for four weekly periods falling within the pay periods immediately preceding the commencement of B's absence. B's "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph) is calculated to be $60.17, as follows:

February 9–15, inclusive	$62.31
February 2–8, inclusive	62.31
January 26–February 1, inclusive (6/7×$57.69+1/7×$62.31)	58.35
January 19–25, inclusive	57.69
	240.66÷4=$60.17

Example (4). Employee C is paid semi-monthly on the 5th and 20th of each month and he began working for his present employer at the beginning of the semi-monthly pay period commencing Tuesday, January 21, 1964. C received total wages of $200 for the pay period of January 21, 1964 through February 5, 1964, inclusive. He was not absent during that pay period. C became sick and was absent from work beginning February 7, 1964. Since employee C does not have four weekly periods falling within a full pay period or full pay periods preceding his absence, the average wages for the last two weekly periods falling within such full pay period will be C's "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph) for purposes of section 105(d), determined to be $92.31, as follows:

$200×24=$4800 (annual rate)

$\frac{\$4800}{52}$=$92.31 (weekly rate)

Example (5). Employee D, an office worker, is paid weekly and is expected to work five days during each week. He has been employed by his present employer for three weeks, but has been absent from work for three normal work days in each of the weeks preceding his illness. He became ill and was absent from work on Monday, February 17, 1964. During the weekly pay period immediately preceding his absence (week of February 10) D was paid $48 salary. He was paid for two working days during such weekly pay period. D's "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph), is calculated to be $120.00, determined as follows:

$$\frac{\$48 \text{ (total wages)} \times 5 \text{ (normal work days in week)}}{2 \text{ (number of work days for which wages were paid)}} = \$120.00$$

Example (6). Employee E is an hourly worker who is paid a salary of $1.25 per hour. E is paid basic salary on a biweekly basis for the periods beginning every other Thursday and ending every other Wednesday. E is also paid monthly for his overtime work and is compensated for such work at one and one-half times the hourly rate. E worked 16 hours of overtime for his employer during the month of January. E was injured and could not report for work on Friday, February 21, 1964. E returned to work on Monday, March 16, 1964. E was paid as follows for the pay periods indicated:

Pay period	Hours		Salary per hour		Total salary
	Regular	Overtime	Regular	Overtime	
Month of January 1964		16		$1.875	$30
Jan. 23–Feb. 5, 1964, inclusive	80		$1.25		100
Feb. 6–19, 1964, inclusive	80		1.25		100

Under the rule set forth in subdivision (iv)(e) of this subparagraph, the weekly rates of payment of salary and overtime must be determined separately. Since basic salary is paid biweekly, the weekly rate of payment is determined to be one-half of $100.00, or $50.00. The full pay period immediately preceding the commencement of E's absence for overtime compensation ended on January 31, 1964. E's overtime earnings are converted to a weekly rate for such period, as follows:

$30.00 (overtime pay)×12=$360.00 (annual rate)

$\frac{\$360.00}{52}$=$6.93 (weekly rate)

The average wages for the last four weekly periods falling within pay periods immediately preceding the commencement of E's absence with respect to basic salary (weeks of February 13, 6, January 30, and 23) is $50.00. The average wages for the last four weekly periods falling within the pay period immediately preceding the commencement of E's absence with respect to overtime compensation (weeks of January 25, 18, 11, and 4) is $6.93. Accordingly, E's "regular weekly rate of wages" (as computed under subdivision (i) of this subparagraph) for the purpose of section 105(d) is $56.93.

(6)(i) Amounts paid under a wage continuation plan must be converted to a weekly rate in order to determine the percentage of benefits paid in relation to the employee's "regular weekly rate of wages", since such percentage is used in determining the waiting period, if any, after which an exclusion is allowable under section 105(d). In order to calculate the weekly rate at which benefits are being paid, reference is made to the particular wage continuation plan. If, in the usual operation of the plan, benefits are paid for the same periods as regular wages, then the pay period of such benefits shall be the period for which a payment of wages is ordinarily made to the employee by the employer. If plan benefits are ordinarily paid for different periods than regular wages, then the pay period of such benefits shall be the period for which payment of such benefits is ordinarily made.

(ii) The weekly rate at which the benefits are paid under a wage continuation plan shall be determined in accordance with the following rules:

(*a*) If benefits are paid on the basis of a weekly pay period, the weekly rate at which such benefits are paid shall be the weekly amount of such benefits.

(*b*) If benefits are paid on the basis of a biweekly pay period, the weekly rate at which such benefits are paid shall be one-half of the biweekly rate.

(*c*) If benefits are paid on the basis of a semimonthly pay period, the weekly rate at which such benefits are paid shall be the semimonthly rate multiplied by 24 and divided by 52.

(*d*) If benefits are paid on the basis of a monthly pay period, the weekly rate at

which such benefits are paid shall be the monthly rate multiplied by 12 and divided by 52.

(e) If benefits are paid on the basis of a period other than a period described in (a) through (d) of this subdivision the weekly rate at which such benefits are paid shall be determined by ascertaining the annual rate at which such benefits are paid and dividing such annual rate by 52.

(iii) The principles of subdivisions (i) and (ii) of this subparagraph may be illustrated by the following example:

Example. A's employer maintains a noncontributory plan which provides for a monthly benefit of $400 during periods of absence from work due to personal injury or sickness. A, a salesman, receives regular salary of $520 per calendar month plus commissions, depending upon the amount of sales made by A during the month. During the month of January 1964, A was paid commissions of $180. A received a total benefit of $200 for an absence of two weeks because of illness occurring in February 1964. He was not hospitalized. Since benefits under the salary continuation plan are paid for the same period as regular wages, the pay period of the plan is monthly. A's "regular weekly rate of wages", determined in accordance with the rules set forth in subparagraph (5) (i) of this paragraph is $161.54.$\frac{52}{(\$700\times12)}$

For purposes of determining the percentage of benefits paid in relation to A's "regular weekly rate of wages", the weekly rate of the benefits are calculated to be $92.31, as follows:

$400 (monthly rate) $\times 12 = \$4{,}800$ (annual rate)

$\frac{\$4{,}800}{52} = \$92.31$ (weekly rate)

Since $92.31 does not exceed 75 percent of A's "regular weekly rate of wages", A is entitled to an exclusion under section 105(d) for the second week of absence, subject to the other limitations provided in this section.

(iv) For the purpose of determining whether or not the rate of benefits paid under a wage continuation plan for a period of absence exceeds 75 percent of the employee's "regular weekly rate of wages" (as determined under subparagraph (5) of this paragraph), it is necessary to ascertain the average percentage of benefits paid in relation to the employee's "regular weekly rate of wages" for the first 30 calendar days in the period of absence. Such percentage is derived from a fraction, the numerator of which is the sum of benefits paid (attributable to employer contributions) for the period of absence occurring within the first 30 calendar days, and the denominator of which is the collective sum of the employee's "regular weekly rate of wages" during such period. This rule may be illustrated by the following examples:

Example (1). Employee A is paid a semimonthly basic salary of $150 plus commissions. He normally works five days during each week (Monday through Friday). During the month of January 1964, A received wages of $150 plus commissions of $66.67 for each of the semimonthly pay periods. A became ill on Monday, February 3, 1964, and as a result was absent from work until Monday, February 17, 1964, but was not hospitalized. Under the noncontributory wage continuation plan of A's employer, A received no benefits for the first three working days' absence (Monday through Wednesday) and was paid benefits at the rate of $100 a week thereafter. A's "regular weekly rate of wages," determined under the rules set forth in subparagraph (5) of this paragraph, is $100. A is considered to have received average benefits at a rate of 70 percent of his "regular weekly rate of wages", computed as follows:

(1) Week of absence	(2) Benefits paid	(3) Regular weekly rate of wages
1—Feb. 3	$40	$100
2—Feb. 10	100	100
Totals	140	200

Average percentage of benefits paid—$\frac{140}{200}$ = 70%. Accordingly, A may exclude amounts attributable to the second week of absence, subject to the other limitations of section 105 (d).

Example (2). Assume, in example (1), that A did not return to work until Thursday, February 20, 1964. A is considered to have received average benefits at the rate of 76.92 percent of his "regular weekly rate of wages", computed as follows:

(1) Week of absence	(2) Benefits paid	(3) Regular weekly rate of wages
1—Feb. 3	$40	$100
2—Feb. 10	100	100
2⅗—Feb. 17	[1] 60	[1] 60
Totals	200	260

[1] Three-fifths of 100.

Average percentage of benefits paid—$\frac{200}{260}$ = 76.92%. Accordingly, A would not be permitted any exclusion under section 105(d).

(v) If with respect to any pay period or portion thereof the employee receives amounts under two or more wage continuation plans (whether such plans are maintained by or for the same employers or by different employers), the weekly rate for purposes of section 105(d) shall be the sum of the weekly rates received under all plans. This rule may be illustrated by the following example:

Example. An employee who is absent because of personal injuries or sickness receives $100 biweekly under wage continuation plan A maintained by his employer. He contributes one-half of the premiums for maintenance of the plan. Under wage continuation plan B maintained by his employer the employee receives $400 monthly. Plan B is noncontributory. The weekly rate at which benefits are paid for the purpose of section 105(d) is computed as follows:

Plan A—$\frac{\$100}{2} = \$50.00$ (weekly rate)

25.00 (less amount attributable to employee contributions (½))

25.00 (weekly rate of Plan A)

Plan B—$\frac{\$400\times12}{52} =$ 92.31 (weekly rate of Plan B)

$117.31 (combined weekly rate at which benefits are paid)

The $25 attributable to contributions made by the employee under Plan A would be subject to section 104(a)(3).

(f) *Amount of exclusion for periods of absence commencing after December 31, 1963*—(1) *In general.* Amounts received under a wage continuation plan attributable to periods of absence commencing after December 31, 1963, and which are not excludable from gross income as being attributable to contributions of the employee (see § 1.105–1) are excludable from gross income of the employee to the extent that such amounts do not exceed—

(i) A weekly rate of $75, during the first 30 calendar days in the period of absence; and

(ii) A weekly rate of $100, after the first 30 calendar days in the period of absence.

For example, an employee who normally works five days during each week is absent from work for two days, is hospitalized during his absence, and receives $75 under his employer's wage continuation plan, which amount is at a rate of 75 percent of his "regular weekly rate of wages". The employee cannot exclude the entire $75 under section 105(d), if the weekly rate of such benefits exceeds $75.

(2) *Daily exclusion.* An employee receiving payments under a wage continuation plan must, in order to determine the amount of the exclusion under section 105(d), compute the daily rate of the benefits. Such daily rate is determined, for amounts attributable to the first 30 calendar days in the period of absence, by dividing the weekly rate at which benefits are paid (as determined under paragraph (e)(6)(ii) of this section), or the maximum weekly rate at which wage continuation payments are excludable ($75), whichever is lower, by the number of work days in a normal work week. In the case of amounts attributable to days in a period of absence after the first 30 calendar days, the daily rate for such period is determined by dividing the weekly rate at which benefits are paid (as determined under paragraph (e)(6)(ii) of this section), or the maximum weekly rate at which wage continuation payments are excludable ($100), whichever is lower, by the number of

work days in a normal work week. The daily rate or daily rates of exclusion are then multiplied by the number of normal work days in the period of absence for which an exclusion is allowable in order to determine the total allowable exclusion. These rules may be illustrated by the following examples:

Example (1). Employee A is a salesman receiving salary and commissions on a weekly basis. His employer maintains a noncontributory wage continuation plan which provides for the continuation of A's basic salary of $80 per week during periods of absence. A was absent from work on account of sickness from Monday, February 3, 1964, through Sunday, March 15, 1964, but was not hospitalized. His normal work week is from Monday through Friday. The weekly amount of benefits paid to A ($80) does not exceed 75 percent of his "regular weekly rate of wages" as defined in paragraph (e)(5) of this section. Under section 105(d), the daily rate of exclusion for amounts attributable to the first 30 calendar days in the period of absence, excluding the first 7 days thereof (Monday, February 10, 1964, through Tuesday, March 3, 1964, inclusive) is limited to $15 ($75, maximum weekly rate of exclusion divided by 5 (number of normal work days in week)). The daily rate of exclusion for amounts attributable to the period of absence in excess of 30 calendar days (Wednesday, March 4, 1964, through Sunday, March 15, 1964, inclusive) is limited to $16 ($80, weekly rate of benefits divided by 5). Thus, the total exclusion permitted to employee A by section 105(d) is $383.00 ($15 x 17 work days ($255) + $16 x 8 work days ($128)).

Example (2). Assume the facts in example (1) except that A is paid benefits at the rate of $500 a month during periods of absence. The weekly rate of the benefits computed under the rules stated in paragraph (e)(6)(ii) of this section is $115.38, which amount does not exceed 75 percent of his "regular weekly rate of wages" as defined in paragraph (e)(5) of this section. Under section 105(d), the daily rate of exclusion for amounts attributable to the first 30 calendar days in the period of absence, excluding the first 7 days thereof (Monday, February 10, 1964, through Tuesday, March 3, 1964, inclusive) is limited to $15 ($75, maximum weekly rate of exclusion divided by 5). The daily rate of exclusion for amounts attributable to the period of absence in excess of 30 calendar days (Wednesday, March 4, 1964, through Sunday, March 15, 1964, inclusive) is limited to $20 ($100, maximum weekly rate of exclusion divided by 5). Thus, the total exclusion permitted to employee A by section 105(d) is $415.00 ($15 x 17 work days ($255) + $20 x 8 work days ($160)).

Example (3). Employee B, an office worker works five days during each week (Monday through Friday) and receives a salary of $85 per week. His employer maintains a noncontributory wage continuation plan which provides for no benefits during the first three days of absence, the continuation of full salary for one week thereafter and benefits at the rate of $65 per week thereafter. B was absent from work on account of sickness from Monday, March 16, 1964, through Tuesday, March 31, 1964, and was hospitalized from Wednesday, March 18, through Tuesday, March 24. B received total benefits of $137 for the period of absence, which does not exceed 75 percent of his "regular weekly rate of wages" as determined under paragraph (e)(5) of this section. B is permitted an exclusion under section 105(d) of $127 calculated as follows:

Period of absence	Weekly rate of benefits	Maximum weekly rate of exclusion	Daily rate of exclusion	Days of absence in period	Maximum exclusion
Mar. 16-18	0	$75	0	3	0
Mar. 19-25	$85	75	$15	5	$75
Mar. 26-31	65	75	13	4	52
Total exclusion					$127

(g) *Definitions.* The term "personal injury" as used in this section, means an externally caused sudden hurt or damage to the body brought about by an identifiable event. The term "sickness" as used in this section, means mental illnesses and all bodily infirmities and disorders other than "personal injuries". Diseases, whether resulting from the occupation or otherwise, are not considered personal injuries, but they are treated as a sickness.

Par. 4. Section 1.512(b) is amended by adding a new paragraph (14) at the end of section 512(b) and by revising the historical note. Such added and revised provisions read as follows:

§ 1.512(b) Statutory provisions; unrelated taxable income; exceptions, additions, and limitations.

SEC. 512. *Unrelated business taxable income.* * * *

(b) *Exceptions, additions, and limitations.* * * *

(14) In the case of an organization which is described in section 501(c)(5), there shall be excluded all income used to establish, maintain, or operate a retirement home, hospital, or other similar facility for the exclusive use and benefit of the aged and infirm members of such an organization, which is derived from agricultural pursuits conducted on a ground contiguous to the retirement home, hospital, or similar facility and further provided that such income does not provide more than 75 percent of the cost of maintaining and operating the retirement home, hospital, or similar facility; and there shall be excluded all deductions directly connected with such income.

[Sec. 512(b) as amended by Act of April 7, 1958 (Pub. Law 85-367, 72 Stat. 80); Act of July 17, 1964 (Pub. Law 88-380, 78 Stat. 333)]

Because the changes contained in paragraph 4 of this Treasury decision merely conform the regulations under section 512(b) to reflect the amendment made by the Act of July 17, 1964 (Public Law 88-380, 78 Stat. 333), and because no substantive rules regarding the application of such amendment are prescribed herein, it is hereby found that it is unnecessary, with respect to such changes, to issue paragraph 4 of this Treasury decision with notice and public procedure thereon under section 4(a) of the Administrative Procedure Act, approved June 11, 1946, or subject to the effective date limitation of section 4(c) of that Act.

(Sec. 7805, Internal Revenue Code of 1954; 68A Stat. 917; 26 U.S.C. 7805)

[F.R. Doc. 64-11622; Filed, Nov. 16, 1964; 8:47 a.m.]

Title 32—NATIONAL DEFENSE

Chapter V—Department of the Army

SUBCHAPTER E—ORGANIZED RESERVES

PART 562—RESERVE OFFICERS' TRAINING CORPS

Miscellaneous Amendments

1. Sections 562.3(c) and 562.4 are revised to read as follows:

§ 562.3 Definitions.

* * * * *

(c) *Major Commander.* The term "major commander" as used in this regulation is limited to:

(1) Commanding General, Zone of Interior armies.

(2) Commanding General, United States Army, Alaska.

(3) Commander, United States Army Forces Southern Command.

(4) Commanding General, United States Army, Hawaii.

(5) Commanding General, Antilles Command, United States Army Southern Command.

* * * * *

§ 562.4 Responsibilities.

(a) *Supervision.* (1) The Department of the Army is the agency of the Federal Government charged by law with the:

(i) Formulation and preparation of plans, policies, regulations, and instructions implementing the statutory provisions pertaining to Army ROTC.

(ii) Supervision of the execution of pertinent laws relating to the Army ROTC.

(2) The Chief of Staff, U.S. Army, exercises supervision and control over the ROTC program.

(3) The Chief, Office of Reserve Components has the responsibility within the Army staff for general staff supervision and coordination of plans, policies, and programs of the ROTC. He has general staff responsibility for plans, policies, and programs of the ROTC.

(4) The Adjutant General is the administrative agency of the Department of the Army for ROTC matters.

(5) The Commanding General, U.S. Army Materiel Command, is responsible for logistical support of all ROTC activities.

(b) *Commanding General, United States Continental Army Command.* The Commanding General, United States Continental Army Command, is responsible for:

(1) General direction, supervision, inspection, and coordination of matters pertaining to the organization and training of ROTC units except those requiring action by Headquarters, Department of the Army.

(2) Preparation of training literature, including institutional and camp programs of instruction and ROTC manuals.

(3) Observance of unit and summer camp training.

(c) *Major commander.* The major commander commands the operation, training, and administration of the ROTC program within his Army area, in-

cluding orientation of officer personnel assigned to ROTC duty.

(d) *United States Army corps commander.* ROTC responsibilities and duties of the corps commander will be those delegated to him by the major commander.

(e) *Professor of military science.* (1) The PMS is the commander of the military personnel assigned to the ROTC unit. His primary responsibility is to insure that the ROTC program is administered at the institution in accordance with Army regulations, programs, objectives, and policies. As head of the department of military science, he is also responsible to the institutional authorities for the conduct of the program in accordance with institutional rules, regulations, and customs. He advises institutional authorities of the provisions of law and regulations affecting the conduct of the ROTC programs. In coordination with the head of the institution, the PMS drafts the rules and orders relating to the administration, control, and training of the ROTC unit, including appointment, promotion, and reduction of cadet officers and noncommissioned officers. The PMS is responsible for the maintenance of good relations with the authorities, faculty, and student body, and represents the Department of the Army locally in all matters relating to the ROTC program. He is also responsible for orientation of freshman faculty advisors on the ROTC program.

(2) All personnel assigned to ROTC duty at an institution will be assigned to the department of military science. They will be directly under the authority of the PMS in all matters pertaining to their military status and assigned duties.

(3) At institutions where the Army is responsible for accountability of Government property provided for the ROTC program, the PMS will designate an Army officer or warrant officer assigned to duty at the institution, or a Department of the Army civilian employee as Army ROTC property officer.

2. Sections 562.5 and 562.6 are revised to read as follows:

§ 562.5 Department of military science.

(a) All Army ROTC activities and functions at the institution will be grouped under the department of military science, which should be an integral academic and administrative subdivision of the institution. In institutional matters, the head of the institution exercises the same control over the department of military science that he exercises over the other departments of the institution.

(b) At the discretion of the institutional authorities, the department of military science may be grouped with the department of Air science and/or department of Naval science, if present, into a larger academic subdivision headed by a person designated by the head of the institution, in accordance with joint ROTC policies.

§ 562.6 Channels of communication.

(a) ROTC correspondence will normally be routed through the chain of command. However, administrative matters from major command level will be forwarded direct to The Adjutant General, ATTN: AGPB–OC, Department of the Army, Washington, D.C., 20315. Matters concerning organization and training from major command level will be routed through Commanding General, United States Continental Army Command. Normally, Headquarters, Department of the Army, will use similar channels.

(b) Heads of institutions are not restricted to command channels. However, it is usually desirable for institutional problems to be presented first to the major commander.

(c) Major changes in policy will be announced by Headquarters, Department of the Army, to all institutional heads. Implementing directives will be furnished to major commanders prior to announcement to institutional heads. Copies of correspondence between Headquarters, Department of the Army, and heads of institutions will be furnished to major commanders.

(d) In the interest of expediency, reports will be submitted direct to The Adjutant General unless otherwise indicated. Copies will be furnished intermediate commanders, as required.

(e) Major commanders will determine those matters which will be handled direct between major command headquarters and the PMS, and the matters to be handled between the Army Corps headquarters and the PMS.

(f) It is necessary for Headquarters, Department of the Army, to maintain a current listing of institutional heads. The PMS will advise The Adjutant General, ATTN: AGPB–OC, Department of the Army, Washington, D.C., 20315, of any changes.

3. Sections 562.9 and 562.9b are revised to read as follows:

§ 562.9 Summer vacation.

Military personnel on duty at educational institutions are available to the major commander during the period of summer vacation from the date of commencement to a date 2 weeks prior to the opening of the succeeding school year for such duty as he may deem necessary in the operation of ROTC summer camps. Major commanders will act upon special requests of institutional authorities for the retention of certain military personnel during the vacation period. At senior division institutions where several branches of training are maintained, at least one officer, warrant officer, or suitable noncommissioned officer should remain on duty at the institution during the entire summer. The nature of the duties of officers and enlisted personnel with ROTC units precludes absence from the institution during the school year. Therefore, careful consideration will be given in arranging details for summer training duty to insure that each individual is provided an opportunity for a reasonable amount of leave during the summer months.

§ 562.9b Wearing of uniform.

Military personnel will wear the proper military uniform when performing military duties, including classroom instruction and practical exercises.

[AR 145–5, Sept. 16, 1964] (Sec. 3012, 70A Stat. 157; 10 U.S.C. 3012. Interpret or apply secs. 4381–4387, 70A Stat. 246–248; 10 U.S.C. 4381–4387)

J. C. LAMBERT,
Major General, U.S. Army,
The Adjutant General.

[F.R. Doc. 64–11671; Filed, Nov. 16, 1964; 8:47 a.m.]

Title 41—PUBLIC CONTRACTS

Chapter 11—Coast Guard, Department of the Treasury

[CGFR 64–64]

PART 11–11—FEDERAL, STATE, AND LOCAL TAXES

Pursuant to authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order 167–17 (20 F.R. 4976) and Treasury Department Order 167–50 (28 F.R. 530), Chapter 11 of Title 41 is amended by adding Part 11–11 (§§ 11–11.202 and 11–11.550—11–11.550–6).

Subpart 11–11.2—Exemptions From Federal Excise Taxes

Sec.
11–11.202 Manufacturer's excise taxes.

Subpart 11–11.5—Tax Exemption Forms

11–11.550 Use of SF 1094.
11–11.550–1 Applicability.
11–11.550–2 Restrictions.
11–11.550–3 Use of SF 1094.
11–11.550–4 Preparation of SF 1094.
11–11.550–5 Claims for refunds.
11–11.550–6 Supply and control of SF 1094.

AUTHORITY: The provisions of this Part 11–11 issued under 14 U.S.C. 633, 10 U.S.C. Ch. 137.

Subpart 11–11.2—Exemptions From Federal Excise Taxes

§ 11–11.202 Manufacturer's excise taxes.

A substantial purchase for the purpose of taking advantage of tax exemptions authorized in § 1–11.202 of this title shall generally be construed to apply to those purchases in which the amount of tax exemption would exceed $200.

Subpart 11–11.5—Tax Exemption Forms

§ 11–11.550 Use of SF 1094.

§ 11–11.550–1 Applicability.

This section prescribes the procedures for use of United States tax exemption certificates (Standard Form 1094) where exemptions, adjustments or refunds of State and local taxes are available on commodities or services purchased for the exclusive use of the United States Government. SF 1094 is not to be used to obtain exemption, where permitted, from any Federal taxes.

§ 11–11.550–2 Restrictions.

SF 1094 will not be used by Coast Guard officials or employees:

(a) For items of subsistence expense when per diem in lieu of subsistence has been granted,

(b) When using a personally owned motor vehicle for which mileage allowance has been authorized,

(c) In official travel status, for purchases for official purposes, unless payment is actually made at time of purchase,

(d) If merchandise purchased is subject only to Federal tax, or

(e) Where the amount of the taxes on any one bill or purchase is $1.00 or less.

§ 11–11.550–3 Use of SF 1094.

SF 1094 will be used when a State or local tax attaches at time of sale to the consumer, and the vendor or dealer:

(a) Sells to the Government at a price which is exclusive of tax. SF 1094 will be furnished to the vendor or dealer where evidence of the tax exempt sale is required for use in claiming exemption from payment of the tax to the taxing authority.

(b) Refuses to sell at a price exclusive of tax. SF 1094 will be used to obtain a record of the transactions for the United States Government in billing the taxing authority for refund of taxes paid.

(c) Makes multiple deliveries under a contract extending over a period of time. In such cases, the purchasing office may issue SF's 1094 to the contractor to support each invoice covering partial deliveries completed under the contract or may furnish them upon completion of the contract.

§ 11–11.550–4 Preparation of SF 1094.

A separate certificate will be issued for each kind of tax (State or local) for which exemption is claimed. Purchasers will fill in the blocks provided on each certificate showing the quantity delivered and the amount of tax for which the certificate is issued.

(a) *Identification of purchaser.* The purchaser, in addition to his signature and title, will enter on the lines provided on the certificate, where applicable, the number or official designation or the motor vehicle, boat or aircraft to which motor fuel and/or lubricating oil was delivered.

(b) *Identification of the purchasing agency and vendor.* SF 1094 will be completed to indicate that they were issued by the U.S. Coast Guard, the name and location of the issuing office and the name and address of the vendor or dealer. This information is necessary to provide State and local taxing authorities the identity of the purchasing office and vendor when claims for exemption, refund or adjustment of tax is made by the vendor or the Government.

(c) *Certification by vendor.* When the amount of tax is included in the purchase price paid by the Coast Guard, the certificate of the vendor will be obtained on each SF 1094 issued for the transaction.

(d) *Certificate and voucher numbers.* When SF 1094 is used by the Coast Guard to bill the taxing authority, § 11–11.550–3(b), the payment voucher number will be noted on the certificates and the serial number of the certificates will be shown on the payment voucher.

§ 11–11.550–5 Claims for refunds.

When it is impossible to make purchase exclusive of State and local taxes which are deemed to be inapplicable to the Coast Guard, SF 1094 will be issued and forwarded with applicable documents to the certifying officer for settlement with a written statement that the vendor refused such certificate. The account will be settled if otherwise correct, and a copy of the payment voucher and other pertinent documents will be forwarded to the Commandant (FP). All Coast Guard claims for refund of State or local taxes will be effected by the Commandant (FP). When the Commandant (FP) fails to secure refund of the State or local taxes from the applicable taxing authority, such claims will be forwarded to the Claims Division of the General Accounting Office, Washington, D.C., for further collection proceedings.

§ 11–11.550–6 Supply and control of SF 1094.

(a) *Source of supply.* SF 1094 will be requisitioned by the Coast Guard supply centers from the General Services Administration. Authorized issuing authorities will submit their orders to their applicable supply center. The unit of issue is "book" and each book contains 25 certificates (SF 1094) and 5 tabulation sheets (SF 1094a).

(b) *Issuing authorities.* All designated Coast Guard contracting officers and such other Coast Guard personnel as are specifically designated in writing by district commanders and commanding officers of Headquarters units may issue SF 1094.

(c) *Accountability of SF 1094.* Each unit authorized to stock and/or issue SF 1094 will maintain a record reflecting all receipts, expenditures, balance on hand by date source and serial numbers. Forms not in use will be kept in secure storage. Certificates rendered unserviceable in any manner will be voided and retained by the issuing authority until disposition of the applicable series of certificates is authorized. Certificates lost or destroyed after issue may be replaced by noting on the new certificate "This certificate is issued to replace No. ------ which has been lost or destroyed." Prior to issuing replacement certificates, the request for issuance of a replacement will set forth all pertinent circumstances regarding such loss or destruction. When loss or destruction is proven to the satisfaction of the issuing authority, a replacement certificate may be issued and the applicable taxing authority notified accordingly.

(d) *Disposition of forms.* Exhausted books will be retained until audited by either the General Accounting Officer or Coast Guard Internal Auditors and will then be destroyed by burning. Books or forms which are no longer required by issuing units will be returned, with applicable accounting records to the source from which originally received, for reissue or destruction after audit as set forth in this paragraph (d).

Dated: November 2, 1964.

[SEAL] W. D. SHIELDS,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

[F.R. Doc. 64–11681; Filed, Nov. 16, 1964; 8:48 a.m.]

[CGFR 64–65]

PART 11–12—LABOR

Pursuant to authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order 167–17 (20 F.R. 4976) and Treasury Department Order 167–50 (28 F.R. 530), Chapter 11 of Title 41 is amended by establishing Part 11–12—Labor, as follows:

Subpart 11–12.1—Basic Labor Policies

Sec.
11–12.101–1 General.

Subpart 11–12.4—Labor Standards in Construction Contracts

11–12.404–2 Wage determinations.
11–12.404–3 Additional classifications.
11–12.404–8 Reports of violations.

Subpart 11–12.6—Walsh-Healey Public Contracts Acts

11–12.604 Responsibilities of contracting officers.

AUTHORITY: The provisions of this Part 11–12 issued under 14 U.S.C. 633, 10 U.S.C. Ch. 137.

Subpart 11–12.1—Basic Labor Policies

§ 11–12.101–1 General.

(a) *Labor disputes.* The policy set forth in § 1–12.101–1 of this title shall be observed by all Coast Guard personnel. When any labor dispute significantly affects, or threatens to affect the Coast Guard in any manner, the activity concerned shall furnish all information relevant thereto to the Commandant (FS) for appropriate action.

(b) *Federal and State labor requirements.* Coast Guard officials shall cooperate and require contractors to cooperate to the fullest extent possible with Federal and State agencies responsible for enforcing requirements of labor laws. In carrying out this policy, no application to responsible agencies shall be initiated or supported for suspension or relaxation of labor standards.

Subpart 11–12.4—Labor Standards in Construction Contracts

§ 11–12.404–2 Wage determinations.

(a) Request for wage rate determinations shall be submitted via the Commandant (E). In emergencies request may be submitted to the Commandant (E) by message in lieu of form DB–11.

(b) Form SOL–155 is available from the Department of Labor for use in conjunction with the requirement for posting wage rates. When this form is used, the name and address of the contracting officer will be inserted in the appropriate space thereon.

§ 11–12.404–3 Additional classifications.

Reports and correspondence required for additional classifications prior to award of contract shall be forwarded via the Commandant (E); after award, such reports and correspondence may be forwarded direct with an information copy to the Commandant (FS).

§ 11–12.404–8 Reports of violations.

(a) *Enforcement reports.* Reports of violations required by § 1–12.404–8(a) of this title shall be submitted via the Commandant (CL) for review and processing.

(b) *Semi-annual enforcement reports.* (1) In accordance with the requirements of § 1–12.404–8(b) of this title, semi-annual enforcement reports, Reports Control Symbol (RCS) FS–6150, will be submitted to the Commandant (FS) to arrive not later than July 10 and January 10 respectively.

(2) Required reports will be submitted in the following format:

SEMI-ANNUAL LABOR COMPLIANCE REPORT

(RCS FS–6150)

Date _____.

This report covers period from _____ to _____, 19__.

I.a. Number of contracts awarded subject to labor standards statutes _____.

b. Number of contracts on which preconstruction letters were sent _____.

c. Number of contracts on which preconstruction conferences were held _____.

d. Number of contracts on which letters of notice were sent to contractors emphasizing importance of future compliance _____.

II.a. Total gross payroll amount _____.

b. Number of employee interviews conducted _____.

1. Written _____.

2. Oral _____.

c. Amount of wage restitution made under Davis-Bacon and Related Acts $_____; under Contract Work Hours Standards Acts $_____.

d. Total number of workers who received restitution payments _____.

e. Amount of liquidated damages assessed for violations on Contract Work Hours Standards Act $_____.

f. Number of complaints received alleging violations of the contract labor standards requirements _____.

III.a. Number of visits to field offices by the contracting agency's Washington headquarters personnel to review labor standards compliance program _____.

b. Number of visits to contract sites by Division, District, or Regional Offices of agency to review labor standards compliance program _____.

IV. Remarks.

(Signed) _____
(Name)

_____
(Title)

_____
(Unit)

(3) Report preparation instructions:

Item Ia. Include contracts awarded during the period in excess of $2,000 involving construction, alteration or repair of public buildings or public works.

Item IIa. Total gross payroll amount is the sum of all gross payments made to laborers and mechanics during the reporting period. Contractor's Weekly Payroll Statement forms used by most agencies require that the gross payroll amount be shown on the Payroll Statement. This item requires merely the totalling of those gross amounts.

Item IIb. Written interviews (which can be facilitated by use of employee interview forms) should be supported by interview statements on file.

Item IIc. "Davis-Bacon and Related Acts" refers to all prevailing wage statutes listed in 29 CFR 5.1, whereas the Contract Work Hours Standards Act has reference to daily and weekly overtime.

Item IIf. This item refers to complaints and inquires from all sources, including employees, unions, the agency's Washington headquarters, the Department of Labor, or members of Congress.

Item III a and b. "Visit" as referred to in these items means a visit to an activity by one or more persons for an in-depth review of labor standards compliance procedures.

(4) To meet submission dates, reports may be submitted by message to the Commandant (FS) referring to RCS FS–6150 and providing information by the line number in accordance with the enumeration established therefor in § 11–12.404–8(b)(2).

Subpart 11–12.6—Walsh-Healey Public Contracts Acts

§ 11–12.604 Responsibilities of contracting officers.

Forms required in § 1–12.604 (b) and (c) of this title may be obtained by letter request direct to Wage and Hours and Public Contract Division, Department of Labor, Washington, D.C., 20210.

Dated: November 4, 1964.

[SEAL] W. D. SHIELDS,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

[F.R. Doc. 64–11682; Filed, Nov. 16, 1964; 8:48 a.m.]

Title 46—SHIPPING

Chapter II—Maritime Administration, Department of Commerce

SUBCHAPTER A—POLICY, PRACTICE, AND PROCEDURE

[General Order 41, 3d Rev.]

PART 201—RULES OF PRACTICE AND PROCEDURE

Correction

In Federal Register Document 64–10788, published at page 14475 in the issue for Thursday, October 22, 1964, the following changes should be made:

1. Page 14480, top of third column, "§ 201.107" should be designated "§ 201.102".

2. Page 14481, bottom of first column, "§ 201.55" should be designated "§ 201.111".

3. Page 14481, bottom of third column, "§ 201.113" should be designated "§ 201.122".

4. Page 14482, top of first column, "§ 201.114" should be designated "§ 201.123".

5. Heading of § 201.181 (page 14485, third column) should read: "General matters."

Title 50—WILDLIFE AND FISHERIES

Chapter I—Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Department of the Interior

PART 32—HUNTING

Tishomingo National Wildlife Refuge, Oklahoma

The following special regulations are issued and are effective on date of publication in the FEDERAL REGISTER.

§ 32.22 Special regulations; upland game; for individual wildlife refuge areas.

OKLAHOMA

TISHOMINGO NATIONAL WILDLIFE REFUGE

The public hunting of squirrels on the Tishomingo National Wildlife Refuge, Okla., is permitted only on the area designated by signs as open to hunting. This open area, comprising 3,100 acres, is delineated on maps available at refuge headquarters, Tishomingo, Oklahoma, and from the Regional Director, Bureau of Sport Fisheries and Wildlife, Post Office Box 1306, Albuquerque, N. Mex., 87103. Hunting shall be in accordance with all applicable State regulations governing the hunting of squirrels subject to the following special conditions:

(1) The open season for hunting squirrels on the refuge extends from May 15 through September 30, 1965, inclusive; and from November 1, 1965, through January 1, 1966, inclusive, on Tuesdays, Thursdays, Saturdays, Sundays, and national holidays.

(2) Shotguns only may be used for hunting.

(3) A Federal permit is not required to enter the public hunting area, but hunters, upon entering and leaving, shall report at designated checking stations as may be established for the regulation of the hunting activity and shall furnish information pertaining to their hunting, as requested.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through January 1, 1966.

The public hunting of rabbits, coyotes, wolves, and bobcats on the Tishomingo National Wildlife Refuge, Oklahoma, is permitted only on the area designated by signs as open to hunting. This open area, comprising 3,100 acres, is delineated on maps available at refuge headquarters, Tishomingo, Oklahoma, and from the Regional Director, Bureau of Sport Fisheries and Wildlife, Post Office Box 1306, Albuquerque, N. Mex., 87103. Hunting shall be in accordance with all applicable State regulations governing the hunting of rabbits, coyotes, wolves, and bobcats subject to the following special conditions:

(1) The open season for hunting rabbits, coyotes, wolves, and bobcats on the

refuge extends from January 1 through September 30, 1965, inclusive; and from November 1 through December 31, 1965, inclusive, on Tuesdays, Thursdays, Saturdays, Sundays, and national holidays.

(2) Shotguns only may be used for hunting.

(3) A Federal permit is not required to enter the public hunting area, but hunters, upon entering and leaving, shall report at designated checking stations as may be established for the regulation of the hunting activity and shall furnish information pertaining to their hunting, as requested.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through December 31, 1965.

The public hunting of raccoons, skunks, and opossums on the Tishomingo National Wildlife Refuge, Okla., is permitted only on the area designated by signs as open to hunting. This open area, comprising 3,100 acres, is delineated on maps available at refuge headquarters, Tishomingo, Okla., and from the Regional Director, Bureau of Sport Fisheries and Wildlife, Post Office Box 1306, Albuquerque, N. Mex., 87103. Hunting shall be in accordance with all applicable State regulations governing the hunting of racoons, skunks, and opossums subject to the following special conditions:

(1) The open season for hunting raccoons, skunks, and opossums on the refuge extends from December 1 through December 31, 1965, inclusive, on Tuesdays, Thursdays, Saturdays, Sundays, and national holidays.

(2) Shotguns only may be used for hunting.

(3) A Federal permit is not required to enter the public hunting area, but hunters, upon entering and leaving, shall report at designated checking stations as may be established for the regulation of the hunting activity and shall furnish information pertaining to their hunting, as requested.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through December 31, 1965.

WILLIAM T. KRUMMES,
Acting Regional Director,
Albuquerque, New Mexico.

NOVEMBER 9, 1964.

[F.R. Doc. 64-11674; Filed, Nov. 16, 1964; 8:47 a.m.]

PART 33—SPORT FISHING

Tishomingo National Wildlife Refuge, Oklahoma

The following special regulation is issued and is effective on date of publication in the FEDERAL REGISTER.

§ 33.5 Special regulations; sport fishing; for individual wildlife refuge areas.

OKLAHOMA

TISHOMINGO NATIONAL WILDLIFE REFUGE

Sport fishing on the Tishomingo National Wildlife Refuge, Tishomingo, Okla., is permitted only on the area designated by signs as open to fishing. These open areas, comprising 10,000 acres, are delineated on maps available at refuge headquarters, and from the Regional Director, Bureau of Sport Fisheries and Wildlife, Post Office Box 1306, Albuquerque, N. Mex., 87103. Sport fishing shall be in accordance with all applicable State regulations subject to the following condition:

(1) The open seasons for sport fishing on the refuge extend from January 1 through December 31, 1965, inclusive, on the waters east of the north-south center line of Secs. 19, 30, and 31, T. 4 S., R. 7 E., and in Rock Creek, Bell Creek, Big Sandy Creek, Dick's Pond, and Goose Pen Pond; and from January 1 through September 30, 1965, inclusive, for all other refuge waters.

The provisions of this special regulation supplement the regulations which govern fishing on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 33, and are effective through December 31, 1965.

WILLIAM T. KRUMMES,
Acting Regional Director,
Albuquerque, New Mexico.

NOVEMBER 9, 1964.

[F.R. Doc. 64-11675; Filed, Nov. 16, 1964; 8:47 a.m.]

Proposed Rule Making

FEDERAL AVIATION AGENCY

[14 CFR Part 71 [New]]

[Airspace Docket No. 64–CE–62]

CONTROL ZONE AND TRANSITION AREA

Proposed Alteration

The Federal Aviation Agency is considering an amendment to Part 71 [New] of the Federal Aviation Regulations to alter controlled airspace in the Hastings, Nebr., terminal area.

The following controlled airspace is presently designated in the Hastings, Nebr., terminal area:

(1) The Hastings control zone is designated as that airspace within a 5-mile radius of Hastings Municipal Airport (latitude 40°36'20'' N., longitude 98°25'-30'' W.), within 2 miles each side of the 338° bearing from Hastings Municipal Airport extending from the 5-mile radius zone to 8 miles NW of the airport, and within a 1-mile radius of Kent Airport, Juanita, Nebraska (latitude 40°40'-00'' N., longitude 98°30'15'' W.), from 0600 to 2100 hours, local time, daily.

(2) The Hastings transition area is designated as that airspace extending upward from 700 feet above the surface within a 7-mile radius of Hastings Municipal Airport (latitude 40°36'20'' N., longitude 98°25'30'' W.), and within 5 miles 1 and 8 miles W of the 338° bearing from Hastings Municipal Airport, extending from the airport to 12 miles NW of the airport; and that airspace extending upward from 1,200 feet above the surface within 7 miles E and 5 miles W of the 158° bearing from Hastings Municipal Airport, extending from the arc of a 7-mile radius circle centered on Hastings Municipal Airport to 16 miles SE of the airport, and within 5 miles E and 8 miles W of the 338° bearing from Hastings Municipal Airport, extending from 12 miles NW of the airport to 20 miles NW of the airport.

The Federal Aviation Agency proposes to take the following airspace actions:

(1) Alter the Hastings control zone by redesignating it as that airspace within a 5-mile radius of Hastings, Nebraska Municipal Airport (latitude 40°36'20'' N., longitude 98°25'30'' W.), and within 2 miles each side of the 338° bearing from Hastings Municipal Airport extending from the 5-mile radius zone to 8 miles N of the airport, and within 2 miles each side of the Hastings VOR 145° radial extending from the 5-mile radius zone to 8 miles SE of the VOR, and within a 1-mile radius of Kent Airport, Juanita, Nebraska (latitude 40°40'00'' N., longitude 98°30'15'' W.). The control zone shall be effective during the time established by a Notice to Airmen and continuously published in the Airman's Guide, or its successor publication, the Airman's Information Manual, now planned for publication on December 10, 1964.

(2) Alter the Hastings transition area by redesignating it as that airspace extending upward from 700 feet above the surface within a 7-mile radius of Hastings Municipal Airport (latitude 40°36'-20'' N., longitude 98°25'30'' W.), and within 5 miles E and 8 miles W of the 338° bearing from the Hastings Municipal Airport, extending from the airport to 12 miles N of the airport, and within 2 miles each side of the Hastings VOR 145° radial extending from the VOR to 8 miles SE; and that airspace extending upward from 1200 feet above the surface within 7 miles E and 5 miles W of the 158° bearing from the Hastings Municipal Airport, extending from the arc of a 7-mile radius circle centered on Hastings Municipal Airport to 18 miles SE of the airport and within 5 miles SW and 8 miles NE of the Hastings VOR 145° radial extending from the VOR to 12 miles SE, and within 5 miles E and 8 miles W of the 338° bearing from Hastings Municipal Airport, extending from 12 miles N of the airport to 20 miles N of the airport, and within 5 miles each side of the 066° bearing from Hastings Municipal Airport, extending from the arc of a 7-mile radius circle centered on Hastings Municipal Airport to the S edge of V–138, and within 5 miles each side of the 286° bearing from Hastings Municipal Airport, extending from a line 8 miles W of and parallel to a 338° bearing from Hastings Municipal Airport to V–3S.

The proposed additional control zone extension to the southeast is required to protect the final approach course of aircraft conducting a new public instrument approach procedure to Runway 32 at Hastings Municipal Airport. This procedure will become effective concurrent with the designation of the required controlled airspace. The control zone will also provide protection for aircraft executing prescribed arrival and departure procedures at the Hastings Municipal Airport during the hours of operation of the weather reporting service to be provided by duly certificated personnel of Frontier Airlines. The normal hours for the taking of these weather observations and the dissemination of this information are from 0600 hours to 2100 hours local time daily. However, in the case of airline schedule changes, these hours may be changed. Normally 30 days notice will be given in case of change. Notice of the change will be given by Notice to Airmen and published in the Airman's Guide, or its successor publication, the Airman's Information Manual, now planned for publication on December 10, 1964.

The proposed additional transition area extending upward from 700 feet and 1,200 feet above the surface will contain aircraft executing the new instrument approach procedure to serve Runway 32, and aircraft transitioning from Kearney, Nebr., to Hastings, Nebr., to the York Intersection on VOR Federal Airway No. 138.

Certain minor revisions to prescribed instrument procedures would be affected in conjunction with the actions proposed herein, but operational complexity would not be increased nor would aircraft performance or present landing minimums be adversely affected.

Specific details of the changes to procedures and minimum instrument flight rule altitudes that would be required may be examined by contacting the Chief, Airspace Branch, Air Traffic Division, Central Region, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110.

Interested persons may submit such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Director, Central Region, Attn: Chief, Air Traffic Division, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Agency officials may be made by contacting the Regional Air Traffic Division Chief. Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

The public docket will be available for examination by interested persons in the office of the Regional Counsel, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110.

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Issued at Kansas City, Mo., on November 4, 1964.

EDWARD C. MARSH,
Director, Central Region.

[F.R. Doc. 64–11650; Filed, Nov. 16, 1964; 8:45 a.m.]

[14 CFR Part 71 [New]]

[Airspace Docket No. 63–CE–136]

CONTROL ZONE AND TRANSITION AREA

Proposed Alteration and Designation

The Federal Aviation Agency is considering amendments to Part 71 [New] of the Federal Aviation Regulations which would alter the controlled airspace in the Peru, Ind., terminal area.

The following controlled airspace is presently designated in the Peru, Ind., terminal area:

1. The Peru, Ind., control zone is designated within a 5-mile radius of Bunker Hill AFB, Peru, Ind. (latitude 40°39'38'' N., longitude 86°08'31'' W.); within 2 miles either side of the Bunker Hill AFB VOR 042° and 231° radials extending from the 5-mile radius zone to 12 miles NE and SW of the VOR; within 2 miles either side of the Bunker Hill AFB TACAN 220° radial extending from the 5-mile radius zone to 10 miles SW of the TACAN; within a 5-mile radius of Kokomo, Ind., Municipal Airport (latitude 40°31'43'' N., longitude 86°03'33'' W.); and within 2 miles either side of the Kokomo VOR, 131° radial extending from the Kokomo 5-mile radius zone to 12 miles SE of the VOR.

2. The Peru, Ind., control area extension is designated within a 25-mile radius of the Bunker Hill AFB, Peru, Ind. (latitude 40°39'38'' N., longitude 86°08'31'' W.), excluding the portion which coincides with the Lafayette and the Fort Wayne, Ind., control area extensions; including the airspace NW of Peru bounded on the S by the Lafayette control area extension, on the W by V–7, on the N by V–38 and on the E by the Fort Wayne control area extension.

3. That portion of the Fort Wayne, Ind., control area extension south of latitude 41°00'00'' N. and west of longitude 85°50'00'' W. within a 40-mile radius of the Fort Wayne VORTAC.

The Federal Aviation Agency, having completed a comprehensive review of the terminal airspace structural requirements in the Peru, Ind., terminal area, including studies attendant to the implementation of the provisions of the Civil Air Regulations Amendments 60–21/60–29, proposes the following airspace actions:

1. Alter the Peru, Ind., control zone by redesignating it within a 5-mile radius of Bunker Hill AFB, Peru, Ind. (latitude 40°39'38'' N., longitude 86°08'31'' W.); within 2 miles each side of the Bunker Hill AFB VOR 042° and 231° radials extending from the 5-mile radius zone to 8 miles NE and SW of the VOR; within 2 miles each side of the Bunker Hill AFB TACAN 053° and 220° radials extending from the 5-mile radius zone to 8 miles NE and SW of the TACAN; within a 5-mile radius of Kokomo, Ind., Municipal Airport (latitude 40°31'43'' N., longitude 86°03'33'' W.); within 2 miles each side of the Kokomo VOR 040° and 131° radials extending from the 5-mile radius zone to 8 miles NE and SE of the VOR; and within 2 miles each side of the 135° bearing from the Kokomo RBN extending from the 5-mile radius zone to 8 miles SE of the RBN.

2. Designate the Peru, Ind., transition area as that airspace extending upward from 700 feet above the surface within a 15-mile radius of Bunker Hill AFB, Peru, Ind.; within 8 miles SE of the Kokomo, Ind., VOR 040° radial extending from the VOR to 12 miles NE of the VOR; within 5 miles SW and 8 miles NE of the Kokomo VOR 131° radial extending from the VOR to 12 miles SE of the VOR, excluding that airspace within a 12-mile radius of the Marion Municipal Airport, Marion, Ind.; and that airspace extending upward from 1,200 feet above the surface within the area bounded by a line beginning at latitude 40°07'00'' N., longitude 86°00'00'' W.; to latitude 40°07'00'' N., longitude 86°33'00'' W.; to latitude 41°00'00'' N., longitude 86°33'-00'' W.; to latitude 41°00'00'' N., longitude 85°50'00'' W.; to latitude 40°30'00'' N., longitude 85°50'00'' W.; thence to point of beginning, excluding the airspace within a 12-mile radius of the Marion Municipal Airport, Marion, Ind.

In part, control area extensions for both Fort Wayne, Ind., and Peru, Ind., coincide with the transition area proposed herein. These will be revoked at a later date after studies associated with the implementation of Civil Air Regulations Amendments 60–21/60–29 have been completed for adjoining terminal areas.

The floors of the airways that would traverse the transition area proposed herein would automatically coincide with the floors of the transition area.

The proposed alteration of the Peru control zone would adjust the alignment and reduce the existing northeast and southwest control zone extensions so as to correspond with the final approach courses specified in the Bunker Hill AFB instrument approach procedures. The proposed alteration would adjust the alignment and reduce the existing southeast control zone extension at the Kokomo Municipal Airport to correspond with the final approach courses specified in the Kokomo instrument approach procedures. The proposed control zone extension to the northeast of the Kokomo Airport will provide protection for aircraft executing a VOR instrument approach to Runway 22. The action proposed herein to designate a transition area at Peru would raise the floor of controlled airspace beyond the immediate vicinity of Bunker Hill AFB and Kokomo Municipal Airport from 700 feet to 1,200 feet above the surface. The controlled airspace proposed for retention would provide for the protection of aircraft executing prescribed instrument holding, arrival and departure procedures in the Bunker Hill AFB-Kokomo terminal area.

Certain minor revisions to prescribed instrument procedures would be effected in conjunction with the actions proposed herein but operational complexity would not be increased nor would aircraft performance or landing minimums be adversely affected.

Specific details of the changes to procedures that would be required may be examined by contacting the Chief, Airspace Branch, Air Traffic Division, Central Region, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110.

Interested persons may submit such written data, views or arguments as they may desire. Communications should be submitted in triplicate to the Director, Central Region, Attn: Chief, Air Traffic Division, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Agency officials may be made by contacting the Regional Air Traffic Division Chief. Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

The public docket will be available for examination by interested persons in the office of the Regional Counsel, Federal Aviation Agency, 4825 Troost Avenue, Kansas City, Mo., 64110.

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Issued at Kansas City, Mo., on November 4, 1964.

EDWARD C. MARSH,
Director, Central Region.

[F.R. Doc. 64–11651; Filed, Nov. 16, 1964; 8:45 a.m.]

[14 CFR Part 71 [New]]

[Airspace Docket No. 64–WE–27]

CONTROL ZONE, FEDERAL AIRWAY, AND TRANSITION AREA

Proposed Alteration and Designation

The Federal Aviation Agency is considering amendments to Part 71 [New] of the Federal Aviation Regulations, which would provide controlled airspace and an airway capability for instrument traffic at Santa Rosa, Calif.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should identify the airspace docket number and be submitted in triplicate to the Director, Western Region, Attention: Chief, Air Traffic Division, Federal Aviation Agency, 5651 West Manchester Avenue, Post Office Box 9007, Airport Station, Los Angeles, Calif., 90009. All communications received within 30 days after publication of this notice in the FEDERAL REGISTER will be considered before action is taken on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received.

An official docket will be available for examination by interested persons at the Federal Aviation Agency, Office of the General Counsel, Attention: Rules Docket, 800 Independence Avenue SW., Washington, D.C., 20553. An informal docket also will be available for examination at the office of the Regional Air Traffic Division Chief.

The following controlled airspace is presently designated in the Santa Rosa, Calif., terminal area:

1. The Santa Rosa control zone is designated as that airspace within a 3-mile radius of Sonoma County Airport, Santa Rosa, Calif. (latitude 38°30'30'' N., longitude 122°48'45'' W.), from 0600 to 2200 hours local time, daily, excluding the portion within R–2522.

2. The western portion of the Sacramento, Calif., control area extension.

The Federal Aviation Agency has under consideration the following airspace actions:

1. Alter the Santa Rosa control zone by redesignating it as that airspace within a 5-mile radius of Sonoma County Airport, Santa Rosa, Calif. (latitude 38°30'-30'' N., longitude 122°48'45'' W.), and within a one-mile radius of Santa Rosa Coddingtown Airport (latitude 38°28'30'' N., longitude 122°44'25'' W.), effective from 0600 to 2200 hours, local time, daily. The portion within Restricted Area R-2522 would be used only after obtaining prior approval from appropriate authority.

2. Designate the Santa Rosa transition area as that airspace extending upward from 700 feet above the surface within a 5-mile radius of Sonoma County Airport and within a one-mile radius of Santa Rosa Coddingtown Airport; and that airspace extending upward from 1,200 feet above the surface within 8 miles southwest and 5 miles northeast of the Santa Rosa VOR (latitude 38°30'-30'' N., longitude 122°48'34'' W.) 153° and 333° True radials, extending from 13 miles northwest to 18 miles southeast of the VOR. The portion within R-2522 would be used only after obtaining prior approval from appropriate authority.

3. Designate VOR Federal airway No. 301 from Point Reyes, Calif., via Santa Rosa to Williams, Calif.

4. Extend VOR Federal airway No. 494 from Sacramento, Calif., via Santa Rosa; intersection of Santa Rosa VOR 325° and Ukiah, Calif., VORTAC 147° True radials to Ukiah.

The proposed alteration of the Santa Rosa control zone is necessary to provide protection for aircraft executing prescribed VOR instrument approach procedures.

The 700-foot floor portion of the proposed transition area is necessary to provide protection for aircraft executing prescribed instrument approach and departure procedures during the period the control zone is not effective. The 1,200-foot floor portion is necessary to provide protection for aircraft executing prescribed instrument approach, departure, and holding procedures at altitudes above 1,500 feet above the surface in the Santa Rosa terminal area.

The proposed Federal airways would provide airway continuity to and from the Santa Rosa terminal area. The floor of the proposed airways would be 700 feet above the surface in compatibility with presently designated airspace surrounding the Santa Rosa terminal area. At a future date, as a part of the implementation of the CAR Amendments 60-21/60-29 programs, it is planned to raise the floors of the airways connecting with and adjacent to Santa Rosa to 1,200 feet or higher above the surface.

These amendments are proposed under authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Issued in Washington, D.C., on November 6, 1964.

DANIEL E. BARROW,
Chief, Airspace Regulations and Procedures Division.

[F.R. Doc. 64-11652; Filed, Nov. 16, 1964; 8:45 a.m.]

[14 CFR Part 73 [New]]

[Airspace Docket No. 64-WA-47]

RESTRICTED AREA

Proposed Alteration

The Federal Aviation Agency is considering an amendment to Part 73 [New] of the Federal Aviation Regulations which would alter restricted area R-6904 at Volk Field, Wis.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should identify the airspace docket number and be submitted in triplicate to the Federal Aviation Agency, Office of the General Counsel, Attention: Rules Docket, 800 Independence Avenue SW., Washington, D.C., 20553. All communications received within 45 days after publication of this notice in the FEDERAL REGISTER will be considered by the Administrator before taking action on the proposed amendment. The proposal contained in the notice may be changed in the light of comments received. All comments submitted will be available in the rules docket for examination by interested persons, both before and after the closing date for comments.

A requirement exists for the use of R-6904 during the night in order to increase the proficiency in night flying, in activities for which the area was designated, by reservists. If the proposal is adopted, the following action would be taken: In the text of R-6904 Volk Field, Wisconsin, "Time of designation. Sunrise to sunset." and "Using agency. Adjutant General, State of Wisconsin, Madison, Wis." would be deleted and "Time of designation. 0600 to 2200 c.s.t., May 1 through September 30 and from 0800 to 1600 c.s.t., Saturday and Sunday, October 1 through April 30." and "Controlling agency. Federal Aviation Agency, Chicago ARTC Center." and "Using agency. Commander, Volk Field, Wisconsin." would be substituted therefor.

This amendment is proposed under section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Issued in Washington, D.C., on November 6, 1964.

DANIEL E. BARROW,
Chief, Airspace Regulations and Procedures Division.

[F.R. Doc. 64-11653; Filed, Nov. 16, 1964; 8:45 a.m.]

[14 CFR Part 165 [New]]

[Docket No. 6313; Notice 64-49]

WAKE ISLAND CODE

Notice of Proposed Rule Making

The Federal Aviation Agency is considering amendments to Part 165—Wake Island Code [New] of the Federal Aviation Regulations to reflect new delegations of authority to fix certain fees and charges to the Regional Director, Pacific Region; to reflect the new titles of the Regional Director and Area Manager; to make changes designed to improve the administration of the area; to add a prohibition against providing or transferring gambling facilities; to authorize the Area Manager to issue citations for petty offenses; to describe the boundaries of the Wake Island Airport; and to limit the kinds of cases in which an accused may forfeit bail without permission and thereby terminate proceedings.

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the Federal Aviation Agency, Office of the General Counsel, Attention: Rules Docket, 800 Independence Avenue SW., Washington, D.C., 20553. All communications received on or before January 18, 1965, will be considered by the Administrator before taking action on the proposed rule. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available, both before and after the closing date for comments, in the rules docket for examination by interested persons.

The official titles of the Island Manager and Assistant Administrator are to be changed, respectively, to Area Manager and Regional Director.

The term "medical services and supplies" is considered to include dental services and supplies. Applicable provisions are to be amended to mention them specifically.

In this part specific amounts are stated as charges for medical and dental services, hospitalization, electric power, water and sewerage, telephone services, etc. This amendment would authorize the Regional Director to prescribe the amounts of these charges. This would permit simplification of the provisions now appearing in §§ 165.255, 165.257, 165.279, 165.281 and 165.283 of Subparts O and P of Part 165 [New]. The provisions for posting of the charges authorized by Subpart P of Part 165 [New], now found in § 165.283(e), would be amended and renumbered to new § 165.5, in order to apply them to all charges the Regional Director fixes.

Part 165 [New] provides that no charges are made for members of the Armed Forces on active duty at Wake Island for treatment of injury incurred while performing their duties, or for disease proximately caused by conditions of their employment. The FAA has entered into agreements with the various services of the Armed Forces under which the FAA provides medical and dental treatment and hospitalization for their members on a reimbursable basis. The provisions for treatment without charge of individuals governed by an agreement would be revised accordingly.

Subpart E of Part 165 [New] prohibits, as a petty offense, the act of gambling, wagering, operating, or participating in a lottery on the Wake Island Airport (§ 165.43(g)). But there has been no prohibition against the transferring or providing, on the island, of gambling facilities or interests in games of chance. In order to assist in the prevention of organized gambling on the island, the amendment would add a new paragraph (kk) to § 165.41 prohibiting transfers of

facilities for the purpose of organized gambling, or transfers of interests in games of chance, without permission from the Area Manager.

The Area Manager has authority to issue citations for violations of the Motor Vehicle Code (Subpart I of Part 165 [New]), but not for violations of petty offenses (Subpart E). Accordingly, the island attorney, who is stationed at the Pacific Region Headquarters in Hawaii, had to issue an information in case of a petty offense listed in Subpart E. The FAA considers it desirable to authorize the Area Manager to issue citations instead of requiring informations, in order to permit more expeditious disposition of these cases. For this purpose, § 165.15 (a) would be amended to grant this authority, and §§ 165.85(b), 165.89(a), and 165.129 would be amended to reflect the change.

A description of the boundaries of Wake Island Airport would be added in new § 165.1(c) and Appendix A. A map of the airport is to be on file with the Office of the Federal Register and available for inspection and copying at the offices of the Regional Director and the Area Manager.

Under § 165.85(b) it is possible for an accused person to forfeit bail and thereby terminate proceedings on his own initiative where an offense has been charged by a citation. This may tend to subvert the purpose for which the court was established. It is considered in the public interest to discontinue this right to forfeit bail and terminate the proceedings without the court's permission in cases other than minor traffic violations. Paragraph (b) of § 165.85 would be amended to reflect this change.

Paragraph (c) of § 165.151 prescribes certain equipment for motor vehicles operated on Wake Island. To prohibit the use of defective equipment, it is proposed to amend this provision to require that the equipment is adequate and properly functioning.

Section 165.17 of Part 165 [New] provides that the Area Manager may perform acts necessary to protect life and property during the "imminence and duration of any major emergency." The word "major" is to be deleted, since the Area Manager's authority to act should exist in any situation he considers an emergency, without the requirement that he first determine whether the emergency is "major."

In consideration of the foregoing, it is proposed to amend Part 165 [New] of Chapter I of Title 14 of the Code of Federal Regulations as hereinafter set forth.

These amendments are proposed under the authority of section 10 of the International Aviation Facilities Act (49 U.S.C. 1159); section 48 of the Hawaii Omnibus Act of July 12, 1960 (74 Stat. 424); Executive Order 11048 (3 CFR 1962 Supp., p. 241); and the agreement between FAA and the Department of the Interior of February 5, 1962 (27 F.R. 8887).

Issued in Washington, D.C., on November 9, 1964.

HAROLD W. GRANT,
Acting Administrator.

It is proposed to amend Part 165 [New] as follows:

1. Part 165 [New] is amended by striking out the terms "Island Manager" and "Assistant Administrator" wherever they appear and by inserting the terms "Area Manager" and "Regional Director", respectively, in place thereof.

2. Part 165 [New] is amended by striking out the heading of Subpart P and by adding a new heading in place thereof, to read as follows:

Subpart P—Medical, Dental and Hospital Services

3. New paragraph (c) is added to § 165.1 to read as follows:

§ 165.1 Applicability.

* * * * *

(c) For the purposes of this part, the Wake Island Airport consists of the area shown on a map entitled "Wake Island Airport Boundary," File No. PC–A–1623, dated May 4, 1963, that has been filed with the Office of the Federal Register and is also available for inspection and copying at the offices of the Regional Director and the Area Manager. The boundaries of the airport are described in Appendix A to this part.

4. New § 165.5 is added to read as follows:

§ 165.5 Publication of rates and charges for supplies and services fixed by the Regional Director.

Whenever this part provides that the FAA Regional Director for the Pacific Region (Regional Director) fixes charges for supplies or services, the orders prescribing these charges are on file, and may be inspected, at the FAA Regional Office, 13 Kapiolani Boulevard, Honolulu, Hawaii. Copies of the orders are on file, and may be inspected, at the office of the Area Manager. Lists of all charges in effect are posted at the office of the Area Manager. In addition, charges for utility services are posted at each office where inquiry about billing may be made and charges for medical, dental and hospital services are posted in a prominent place in each Island Dispensary.

5. Paragraph (a) of § 165.15 is amended to read as follows:

§ 165.15 Authorized functions, powers, and duties.

* * * * *

(a) Issue citations for violations of Subpart E (Petty Offenses) and Subpart I (Motor Vehicle Code) of this part.

* * * * *

§ 165.17 [Amended]

6. The word "major" in § 165.17 is deleted.

7. A new paragraph (kk) is added to § 165.41 to read as follows:

§ 165.41 General criminal offenses.

* * * * *

(kk) Transfer or provide to any person any facilities, equipment, or device for the purpose of organized gambling, or any interest in a game of chance, without permission from the Area Manager. Organized gambling means gambling arranged for by a person or persons who intend to derive a profit, by participation in the gambling or otherwise, from making such arrangements.

Paragraph (b) of § 165.85 is amended to read as follows:

§ 165.85 Bail.

* * * * *

(b) When an offense has been charged by a citation issued by a peace officer or the Area Manager, bail shall be set in the amount prescribed by the senior judge for the violation. The bail shall be paid in cash to the Clerk of the Court. The bail may be forfeited by the accused and the proceedings thereby terminated in the case of a violation of Subpart I of this part that does not involve a moving vehicle or collision, or with permission of the Court in the case of any other offense charged by a citation.

§ 165.89 [Amended]

9. The second sentence of paragraph (a) of § 165.89 is amended to read as follows: "However, if the offense is one for which issue of a citation is authorized by this part and a citation for the offense has been issued, the citation serves as an information."

10. The first sentence of § 165.129 is amended to read as follows:

§ 165.129 Citation in place of arrest.

In any case in which a peace officer may make an arrest without a warrant, he may, under such limitations as the Area Manager may impose, issue and serve a citation, or serve a citation issued by the Area Manager, on a person in place of arresting him if the officer considers that the public interest does not require an arrest * * *.

11. Paragraph (c) of § 165.151 is amended to read as follows:

§ 165.151 Motor vehicle maintenance and equipment.

* * * * *

(c) No person may operate a motor vehicle on Wake Island unless it is equipped with an adequate and properly functioning—

(1) Horn;
(2) Wiper, for any windshield;
(3) Rear vision mirror;
(4) Headlights and taillights;
(5) Muffler; and
(6) Spark or ignition noise suppressors.

* * * * *

§ 165.245 [Amended]

12. Section 165.245 is amended by adding the ZIP Code number "96812" after the word "Hawaii."

§§ 165.255, 165.257 [Deleted]

13. Sections 165.255 and 165.257 are deleted.

14. Section 165.259 is amended to read as follows:

§ 165.259 Charges for utility services.

The Regional Director fixes the charges for electric power, water, sewerage disposal, and telephone service.

15. Paragraph (b) of § 165.261 is amended to read as follows:

§ 165.261 Rates of payment: measurement, adjustment, and billing.

* * * * *

(b) If charges for utility services are increased, each user shall be notified at least 30 days before the increase takes effect.

16. Section 165.271 is amended to read as follows:

§ 165.271 Applicability.

This subpart prescribes the conditions under which the Administrator provides medical and dental services and supplies and hospitalization at Wake Island.

§ 165.273 [Deleted]

17. Section 165.273 is deleted.

18. The section heading and the introductory paragraph and subparagraph (3) of paragraph (a) of § 165.277 are amended to read as follows:

§ 165.277 Persons eligible for treatment.

(a) Subject to applicable charges as prescribed under § 165.283, general treatment for injury or disease is provided for—

* * * * *

(3) Employees of a non-United States agency who are at an Island location under temporary or permanent assignment;

* * * * *

§§ 165.279, 165.281 [Deleted]

19. Sections 165.279 and 165.281 are deleted.

20. Section 165.283 is amended to read as follows:

§ 165.283 Charges for medical services.

(a) Except as provided in paragraphs (b)–(d) of this section, the Regional Director fixes the charges for medical services; medical supplies; dental services; and hospitalization.

(b) No charge is made for treatment of civilian employees of the United States who are under the jurisdiction of the Bureau of Employees' Compensation for injury incurred while performing their duties or for disease proximately caused by the conditions of their employment.

(c) No charge is made for immunizations or physical examinations required in connection with employment by the United States.

(d) Individuals are not charged for services or supplies paid for by another Government agency or other third person under an agreement with FAA.

21. Part 165 [New] is amended by adding Appendix A to read as follows:

APPENDIX A

BOUNDARY DESCRIPTION—WAKE ISLAND AIRPORT

The boundaries of the Wake Island Airport are as follows: Beginning at a point located southwest of the southwest corner of the intersection of Gull Street and Samoa Avenue at a distance of ten feet from the southerly edge of Gull Street and five feet from the westerly edge of Samoa Avenue; thence in a general south and easterly direction on a line five feet west of the west edge of Samoa Avenue to the northeast corner of building T–182; thence in a southwesterly direction to the northwest corner of building T–182; thence in a southeasterly direction to the southwest corner of building T–182; thence in a northeasterly direction to the southeast corner of building T–182; thence in a general south and easterly direction on a line five feet west of the west edge of Samoa Avenue to a point ten feet west of the west edge of Wake Avenue; thence in a general south and easterly direction as a line ten feet west of the west edge of Wake Avenue past the Terminal Building and around the runway overrun to a point ten feet north where Wake Avenue and Elrod Drive join; thence in a general westerly direction on a line ten feet north of the north edge of the pavement of Elrod Drive to a point 400 feet west of the end of the runway and ten feet north of the north edge of Elrod Drive; thence in a general northerly direction for a distance of 790 feet on a line perpendicular to the center of the runway; thence in a general easterly direction for a distance of 900 feet on a line parallel to and 100 feet north of the north edge of the taxiway; thence in a general northerly dierction for a distance of approximately 650 feet on a line perpendicular to the runway centerline to the high water mark of the lagoon designated by a 4'' x 4'' concrete marker; thence in a general easterly and northerly direction along a line corresponding to the high water mark of the lagoon to a 4'' x 4'' concrete marker 300 feet west of the point where Taxiway "B" joins the aircraft parking area located on the west side of Taxiway "B"; thence in a general north and westerly direction along a line paralleling and located 400 feet west of the Taxiway "B" to the point of intersection of this line with a line paralleling and located 100 feet west of the west edge of the maintenance ramp; thence in a general northerly direction along this line 100 feet west of the west edge of the maintenance ramp to the point where this line meets a point ten feet south of the south edge of Gull Street; thence in a general easterly direction on a line ten feet south of the south edge of Gull Street to the point located ten feet south of Gull Street and five feet west of Samoa Avenue, southwest of the southwest corner of the intersection of Gull Street and Samoa Avenue.

[F.R. Doc. 64–11654; Filed, Nov. 16, 1964; 8:46 a.m.]

FEDERAL MARITIME COMMISSION

[46 CFR Part 502]

[General Order 8, Part II]

FEES AND CHARGES FOR SPECIAL SERVICES

Notice of Proposed Rule Making

Notice is hereby given pursuant to section 4 of the Administrative Procedure Act (5 U.S.C. 1003) and section 43, Shipping Act, 1936 (46 U.S.C. 841(a)) that the Federal Maritime Commission is considering the revision to existing and establishment of certain new charges to recover the costs of certain services, as set forth below in accordance with the Act of August 31, 1951 (5 U.S.C. 140), as affected by Reorganization Plan No. 7 of 1961 (26 F.R. 7315) and as implemented by the Bureau of the Budget Circular No. A–25, dated September 23, 1959. Accordingly, it is proposed that § 502.6, Title 46 CFR, be revised as follows:

§ 502.6 Fees and charges for special services.

(a) *Policy and services available.* Pursuant to policies established by the Congress, the Government's costs for special services furnished to individuals or firms who request such service are to be recovered by the payment of fees (Act of August 31, 1951—5 U.S.C. 140). Upon written request directed to and within the discretion of the Federal Maritime Commission, there are available upon payment of the fees hereinafter prescribed, with respect to documents subject to inspection, services as follows:

(1) Copying records/documents.

(2) Certification of copies of documents.

(3) Records search.

(4) Subscriptions to publications of the Commission.

(5) Transcripts of hearings.

(b) *Payment of fees and charges.* The fees charged for special services may be paid by check, draft, or postal money order, payable to the Federal Maritime Commission, except for charges for transcript of hearings. Fees for transcript of hearings are payable to the firm providing the services.

(c) *Fees for services.* The basic fees set forth below provide for documents to be mailed with ordinary first class postage prepaid. If copy is to be transmitted by registered, certified, air or special delivery mail, postage therefor will be added to the basic fee. Also, if special handling or packaging is required, costs thereof will be added to the basic fee.

(1) The copying of records and documents will be available at the rate of 25 cents per page (one side) by the Xerox process, limited to size 8¼'' x 14'' or smaller.

(2) The certification and validation (with Federal Maritime Commission seal) of documents filed with or issued by the Commission will be available at $1.00 for each such certification.

(3) To the extent that time can be made available, records and information search will be performed for reimbursement at the following rates:

(i) By clerical personnel at a rate of $4.00 per person per hours.

(ii) By professional personnel at an actual hourly cost basis to be established prior to search.

(iii) Minimum charge $2.00.

(4) Annual subscriptions to Commission publications for which there are regular mailing lists are available at the charges indicated below. Subscriptions will be available effective Jaunary 1, 1965, for a one-year term, and for calendar year terms thereafter. Subscriptions for periods of less than a full calendar year will be prorated on a quarterly basis. No provision is made for refund upon cancellation of subscription by a purchaser.

(i) Orders, notices, rulings and decisions (initial and final) issued by hearing examiners and by the Commission in all formal docketed proceedings before the Federal Maritime Commission are available at an annual subscription rate of $30.00.

(ii) Final decisions (only) issued by the Commission in all formal docketed proceedings before the Commission are available at an annual subscription rate of $10.00.

(iii) General Orders of the Commission, including all proposed and final rules, are available at an annual subscription rate of $2.00 (initial annual subscription will entitle the purchaser to

a complete set of current General orders issued to date).

(iv) Exceptions: No charge will be made by the Commission for notices, decisions, orders, etc., required by law to be served on a party to any proceeding or matter before the Commission. No charge will be made for single copies of Commission publications individually requested, in person or by mail. In addition a subscription to Commission mailing lists will be entered without charge when one of the following conditions is present:

(*a*) The furnishing of the service without charge is an appropriate courtesy to a foreign country or international organization.

(*b*) The recipient is another government agency, Federal, State or local, concerned with the domestic or foreign commerce by water of the United States or, having a legitimate interest in the proceedings and activities of the Commission.

(*c*) The recipient is a college or university.

(*d*) The recipient does not fall into 1, 2, or 3 above, but is determined by the Commission to be appropriate in the interest of its program.

(5) Transcripts of testimony and of oral argument are furnished by a non-Government contractor, and may be purchased directly from the reporting firm.

In the absence of any views or arguments, the Commission intends to adopt this proposed revision on January 1, 1965.

By order of the Commission, November 5, 1964.

THOMAS LISI,
Secretary.

[F.R. Doc. 64–11685; Filed, Nov. 16, 1964; 8:48 a.m.]

Notices

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

CHEYENNE AND ARAPAHO RESERVATION

Transfer of Land Records to Custody of Anadarko Area Office

In accordance with 25 CFR Part 120 and pursuant to authority delegated by Amendment No. 49 to Secretarial Order No. 2508 (26 F.R. 11395), notice is hereby given that the official custody of all source title documents and land records pertaining to trust or restricted Indian-owned lands on the Cheyenne and Arapaho Indian Reservation in the State of Oklahoma have been transferred from the City of Washington, D.C., to the Anadarko Area Office, Bureau of Indian Affairs, Federal Building, Anadarko, Oklahoma.

Effective November 9, 1964, the Anadarko Area Office will be the office for the maintenance of records for all such trust and restricted lands.

GEORGE W. MATHIS,
Acting Commissioner.

NOVEMBER 10, 1964.

[F.R. Doc. 64–11669; Filed, Nov. 16, 1964; 8:46 a.m.]

AGUA CALIENTE RESERVATION ET AL.

Transfer of Land Records to Custody of Sacramento Area Office

In accordance with 25 CFR Part 120 and pursuant to authority delegated by Amendment No. 49 to Secretary Order No. 2508 (26 F.R. 11395), notice is hereby given that the official custody of all source title documents and land records pertaining to Indian-owned trust or restricted lands on the Agua Caliente (Palm Springs), Augustine, Cabazon, Fort Independence, La Jolla, Mission Creek, Morongo, Pala, Perchanga, Rincon, Round Valley, Sycuan and Torres-Martinez Indian Reservations in the State of California, have been transferred from the city of Washington, D.C., to the Sacramento Area Office, Bureau of Indian Affairs, 2929 Fulton Avenue, Sacramento, Calif.

Effective October 26, 1964, the Sacramento Area Office will be the office for the maintenance of records for all such trust and restricted lands.

PHILLEO NASH,
Commissioner.

NOVEMBER 10, 1964.

[F.R. Doc. 64–11670; Filed, Nov. 16, 1964; 8:47 a.m.]

Bureau of Land Management

WYOMING

Redelegation of Authority in Connection With Lands and Resources; Correction

NOVEMBER 9, 1964.

In Federal Register Document 64–9699, appearing on page 13277 of the issue for Thursday, September 24, 1964, items 4 and 5 should be corrected to read as follows:

4. The Assistant Manager, Branch of Mining, is authorized to take all actions under the following part:

Part II, Sec. 2.6 (b)–(g) and (i)–(l) inclusive.

5. The Assistant Manager, Branch of Oil and Gas, is authorized to take all actions under the following part:

Part II, Sec. 2.6 (a) and (h).

BURTON W. SILCOCK,
Assistant State Director.

Approved: November 9, 1964.

ED PIERSON,
Wyoming State Director.

[F.R. Doc. 64–11684; Filed, Nov. 16, 1964; 8:48 a.m.]

[Classification 134]

ALASKA

Small Tract Classification

NOVEMBER 9, 1964.

1. Pursuant to the authority delegated to me by the Alaska State Director and published in 29 F.R. 3015, March 5, 1964, I hereby classify the following described lands in the vicinity of Eagle River, Alaska, as suitable for lease and for sale under the Small Tract Act of June 1, 1938 (52 Stat. 609; 43 U.S.C. 682a) as amended:

SEWARD MERIDIAN

T. 14 N., R. 2 W.,
Sec. 1, that part lying west of the Glenn Highway;
Sec. 2, E½;
Sec. 11, lots 5 to 12, incl., 20 to 27 incl., 36, 44 to 46, incl., 56 to 59 incl., 65, 70, 71, 77 to 81 incl., and N½NE¼, W½SW¼NW¼SE¼, and W½SW¼SE¼.
T. 15 N., R. 1 W.,
Sec. 20, lots 23 to 25, incl., 28, 29 and 32.

The areas described aggregate 599.57 acres.

2. Classification of the above described lands by this order is subject to valid existing rights and segregates the described lands from all appropriations, including locations under the mining laws, except to applications under the mineral leasing laws and to selections by the State of Alaska in accordance with, and subject to the limitations and requirements of the Act of July 28, 1956 (70 Stat. 709; 48 U.S.C. 46–3b), and section 6(g) of the Alaska Statehood Act of July 7, 1958 (72 Stat. 339).

3. The lands were restored from withdrawal by Public Land Order No. 891 of April 15, 1953, but were retained in reserve status pending an order of classification to be issued by an authorized officer opening the lands to application under the Small Tract Act of June 1, 1938 (52 Stat. 609; 43 U.S.C. 682a).

4. The lands classified by this order will not become subject to application under the Small Tract Act of June 1, 1938 (52 Stat. 609; 43 U.S.C. 682a) as amended, until it is so provided by an order issued by an authorized officer opening the lands to applications or bids.

JAMES W. SCOTT,
Manager, Anchorage District and Land Office.

[F.R. Doc. 64–11683; Filed, Nov. 16, 1964; 8:48 a.m.]

Office of the Secretary

DIRECT-CURRENT TRANSMISSION TECHNOLOGY

Findings and Determination To Permit Negotiated Procurement To Assist Development

Findings and determination to permit negotiated procurement to assist the development of direct-current transmission technology in the United States under the Act of August 28, 1958 (Public Law 85–804):

Findings. In accordance with the authority granted by the Act of August 28, 1958 (50 U.S.C. 1431–1435), and pursuant to Executive Order No. 10789 issued pursuant to said Act, I find that the procurement of Terminal Facilities for the direct-current high-voltage transmission Intertie is significantly related to the National Defense. Competent engineering officials of the Bonneville Power Administration and the Bureau of Reclamation have compiled data which clearly support the proposition that transmission of large volumes of electrical energy may be most efficiently and economically achieved through the use of direct-current high-voltage technology.

The United States has been slow in developing these techniques; yet the Nation's entire industrial complex is dependent, in large measure, upon efficient power supplies. The Intertie Project offers the Nation the opportunity to take a major step forward in developing domestic capabilities, both in the technology and in the manufacture of essential facilities. Unless we exhaust every means of taking advantage of this op-

portunity, we cannot assure ourselves that our defense capability, in terms of manufactured materials, is benefited and reinforced by modern methods of power transmission.

To overcome the handicap which currently exists, the Department of the Interior, in obtaining the key terminal facilities for the Pacific Coast Intertie, must utilize contract methods best designed to insure the development of domestic manufacturing capability. Interior engineers have concluded that knowledge of D–C high-voltage technology is too limited both in Government and domestic industry to permit development of detailed specifications for use as a basis for formal advertising. Their research has produced the further fact that the operative terminal facility to be obtained in the first stage of the Intertie construction requires key components which must be of foreign manufacture. This fact emphasizes the need for doing everything within our power to accelerate domestic capability. In this regard, we are confronted with situations which stress the disparity in competitive position as between the only domestic manufacturer able to offer arrangements for supplying the terminal facilities under the time and quality conditions which must be imposed. There is imminent danger, therefore, that unless the competitive inequalities can be removed, the National Defense objectives and responsible public policy may not be served.

Determination. Based upon the foregoing findings, I hereby determine that:

1. The interests of National Defense require resort to extraordinary contractual actions for which authority is granted in Public Law 85–804 and Executive Order No. 10789;

2. Terminal facilities for the Intertie Project are impracticable for procurement through formal advertising;

3. Contract negotiations must be conducted in such a way as to insure (a) the development of technical and manufacturning capability in domestic industry on as broad a base as possible; (b) the development of such capability with all possible promptness; (c) reasonable competition among domestic sources; and (d) reasonable and realistic equalization of cost factors pursuant to such guidelines as the Department may issue on this subject;

4. The negotiations and any resulting contracts shall be in accordance with the regulations contained in FPR 1–17; and

5. Final decision prior to contract commitment is reserved to the Secretary.

Delegation of authority. I hereby delegate authority to the Administrator, Bonneville Power Administration, and the Commissioner, Bureau of Reclamation, to conduct negotiations leading to contracts consistent with the National Defense considerations cited above and in accordance with the terms and conditions hereof. This authority may be redelegated by the Administrator and the Commissioner.

Supersession of prior findings, determination and authorities. To the extent that they may be inconsistent with the foregoing Findings, Determination, and Delegation, the provisions of the memorandum of findings (memorandum of September 29, 1964, Assistant Secretary to Secretary, approved September 30) and the Determination executed September 30, 1964, are hereby superseded (29 F.R. 14241).

STEWART L. UDALL,
Secretary of the Interior.

NOVEMBER 10, 1964.

[F.R. Doc. 64–11672; Filed, Nov. 16, 1964; 8:47 a.m.]

CHARLES KEITH MILLEN

Appointment and Statement of Financial Interests

NOVEMBER 9, 1964.

Pursuant to section 302(a) of Executive Order 10647, the following information on a WOC appointee in the Department of the Interior is furnished for publication in the FEDERAL REGISTER:

Name of appointee: Charles Keith Millen.

Name of employing agency: Department of the Interior, Office of Assistant Secretary for Water and Power Development.

The title of the appointee's position: Director, Defense Electric Power Area 13.

The name of the appointee's private employer or employers: Public Service Company of Colorado, Denver, Colorado.

The statement of "financial interests" for the above appointee is set forth below.

FRANK P. BRIGGS,
Acting Secretary of the Interior.

OCTOBER 23, 1964.

Appointee's Statement of Financial Interests

In accordance with the requirements of section 302(b) of Executive Order 10647, I am filing the following statement for publication in the FEDERAL REGISTER:

(1) Names of any corporations of which I am, or had been within 60 days preceding my appointment, on October 23, 1964, as Area Director, Defense Electric Power, Area 13, an officer or director:

None.

(2) Names of any corporations in which I own, or did own within 60 days preceding my appointment, any stocks, bonds, or other financial interests:

Public Service Company of Colorado.

(3) Names of any partnerships in which I am associated, or had been associated within 60 days preceding my appointment:

None.

(4) Names of any other businesses which I own, or owned within 60 days preceding my appointment:

None.

CHARLES KEITH MILLEN.

NOVEMBER 3, 1964.

[F.R. Doc. 64–11673; Filed, Nov. 16, 1964; 8:47 a.m.]

FEDERAL COMMUNICATIONS COMMISSION

[Docket Nos. 15619, 15620; FCC 64M–1120]

FARRAGUT TELEVISION CORP. AND PEOPLES BROADCASTING CORP.

Order Continuing Prehearing Conference

In re applications of Farragut Television Corporation, Columbus, Ohio, Docket No. 15619, File No. BPCT–3319; Peoples Broadcasting Corporation, Columbus, Ohio, Docket No. 15620, File No. BPCT–3333; for construction permit for new television broadcast station.

The Hearing Examiner having under consideration a verbal request for a change in date of further hearing conference which is now established as November 16;

It appearing, that other commitments of the parties make it advisable to change the date for further conference;

It is ordered, This 10th day of November 1964, that the date for further prehearing conference is changed from November 16 to November 20, 1964, at 2:00 p.m.

Released: November 10, 1964.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] BEN F. WAPLE,
Secretary.

[F.R. Doc. 64–11690; Filed, Nov. 16, 1964; 8:48 a.m.]

[Docket Nos. 15299, 15300; FCC 64M–1125]

GREAT NORTHERN BROADCASTING SYSTEM AND MIDWESTERN BROADCASTING CO.

Order Continuing Hearing

In re applications of Robert L. Greaige and Roderick C. Maxson, d/b as great Northern Broadcasting System, Traverse City, Michigan, Docket No. 15299, File No. BPH–3982; Midwestern Broadcasting Company, Traverse City, Michigan, Docket No. 15300, File No. BPH–4079; for construction permits.

On the unopposed oral request of counsel for applicant, Great Northern Broadcasting System: *It is ordered,* This 12th day of November 1964, that the hearing is rescheduled from November 13 to December 4, 1964, at 9:00 a.m.

Released: November 12, 1964.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] BEN F. WAPLE,
Secretary.

[F.R. Doc. 64–11691; Filed, Nov. 16, 1964; 8:48 a.m.]

[Docket No. 15641; FCC 64M–1118]

INTERNATIONAL PANORAMA TV, INC.

Order Continuing Hearing

In re application of International Panorama TV, Inc., Fontana, California,

Docket No. 15641, File No. BPCT-3181; for construction permit for new television broadcast station.

It is ordered, This 10th day of November 1964, upon consideration of a request by counsel for the Commission's Broadcast Bureau made and discussed on the record of prehearing conference held this date in the above-entitled proceeding, the said request being supported by a showing of good and sufficient cause, that the hearing in the proceeding, which heretofore was scheduled to commence December 2, 1964, is hereby continued to a date to be specified by subsequent order.

Released: November 10, 1964.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] BEN F. WAPLE,
Secretary.

[F.R. Doc. 64-11692; Filed, Nov. 16, 1964; 8:48 a.m.]

[Docket No. 15658; FCC 64M-1122]

NAUGATUCK VALLEY SERVICE, INC. (WOWW)

Order Re Procedural Dates

In re applications of Naugatuck Valley Service, Inc. (WOWW), Naugatuck, Connecticut, Docket No. 15658, File No. BP-14829; for construction permit.

According to agreements reached at a prehearing conference held on November 9, 1964: *It is ordered,* This 10th day of November 1964, that the following calendar of future procedural steps will be effected:

Preliminary exchange of applicant's technical presentation, December 14, 1964;

Final exchange of applicant's technical presentation and presentation (if any) of applicant's lay presentation, December 28, 1964;

Notification by respondents of applicant's witnesses it is desired be present at hearing for examination, January 4, 1965;

Notification by respondents of intention to make rebuttal presentation accompanied by recommended date for such presentation, January 4, 1965;

Freeze date—date after which applicant agrees not to make, on own volition, substantial change in presentation, January 4, 1965;

Hearing, January 11, 1965.

Released: November 12, 1964.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] BEN F. WAPLE,
Secretary.

[F.R. Doc. 64-11693; Filed, Nov. 16, 1964; 8:49 a.m.]

DEPARTMENT OF AGRICULTURE

Commodity Credit Corporation

SALES OF CERTAIN COMMODITIES

November 1964 CCC Monthly Sales List

Notice to buyers. Pursuant to the policy of Commodity Credit Corporation issued October 12, 1954 (19 F.R. 6669) and subject to the conditions stated therein as well as herein, the commodities listed below are available for sale and, where noted, for redemption of payment-in-kind certificates on the price basis set forth.

The prices at which Commodity Credit Corporation commodity holdings are available for sale during November 1964 have been announced by the U.S. Department of Agriculture. The following commodities are available: Butter, cheddar cheese, nonfat dry milk, dry beans, cotton (upland and extra long staple), wheat, corn, oats, barley, rye, rice, grain sorghum, peanuts, flax, and soybeans.

Virginia-type shelled peanuts for unrestricted sale and lima beans have been dropped from the list for November.

The CCC Monthly Sales List, which varies from month to month as additional commodities become available or commodities formerly available are dropped, is designed to aid in moving CCC's inventories into domestic or export use through regular commercial channels.

If it becomes necessary during the month to amend this list in any material way—such as by the removal or addition of a commodity in which there is general interest or by a significant change in price or method of sale—an announcement of the change will be sent to all persons currently receiving the list by mail from Washington. To be put on this mailing list, address: Director, Procurement and Sales Division, Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture, Washington, D.C., 20250.

Interest rates per annum under the CCC Export Credit Sales Program for November 1964 are 4 percent for periods up to and including 12 months, and 4½ percent for periods from over 12 months up to a maximum of 36 months. All commodities currently offered for sale by CCC, plus tobacco from CCC loan stocks, are available for export sale under the CCC Export Credit Sales Program as provided under specific commodity listings.

The following commodities are available for programming under Title IV, P.L. 480, private trade agreements: Wheat, corn, rye, rice, grain sorghum, upland and extra long staple cotton, tobacco from CCC loan stocks, butter, cheese, and nonfat dry milk. In addition, other surplus agricultural commodities are also eligible for Title IV programming. A list of all commodities available under this program, and current information on interest rates and other phases of the program are being sent separately to recipients of the CCC Monthly Sales List.

The following commodities are currently available for barter: Barley, cotton, tobacco, wheat, corn, and grain sorghum. (In addition, free market stocks of cottonseed and soybean oils are eligible for barter programming.) This list is subject to change from time to time.

The CCC will entertain offers from responsible buyers for the purchase of any commodity on the current list. Offers accepted by CCC will be subject to the terms and conditions prescribed by the Corporation. These terms include payment by cash or irrevocable letter of credit before delivery of the commodity, and the conditions require removal of the commodity from CCC stocks within a reasonable period of time. Where conditions of sale for export differ from those for domestic sale, proof of exportation is also required, and the buyer is responsible for obtaining any required U.S. Government export permit or license. Purchases from CCC shall not constitute any assurance that any such permit or license will be granted by the issuing authority.

Applicable announcements containing all terms and conditions of sale will be furnished upon request. For easy reference a number of these announcements are identified by code number in the following list. Interested persons are invited to communicate with the Agricultural Stabilization and Conservation Service, USDA, Washington, D.C., 20250, with respect to all commodities or—for specified commodities—with the designated ASCS Commodity Office.

Commodity Credit Corporation reserves the right to amend, from time to time, any of its announcements. Such amendments shall be applicable to and be made a part of the sale contracts thereafter entered into.

CCC reserves the right to reject any or all offers placed with it for the purchase of commodities pursuant to such announcements.

CCC reserves the right to refuse to consider an offer, if CCC does not have adequate information of financial responsibility of the offerer to meet contract obligations of the type contemplated in this announcement. If a prospective offerer is in doubt as to whether CCC has adequate information with respect to his financial responsibility, he should either submit a financial statement to the office named in the invitation prior to making an offer, or communicate with such office to determine whether such a statement is desired in his case. When satisfactory financial responsibility has not been established, CCC reserves the right to consider an offer only upon submission by offerer of a certified or cashier's check, a bid bond, or other security, acceptable to CCC, assuring that if the offer is accepted, the offerer will comply with any provisions of the contract with respect to payment for the commodity and the furnishing of performance bond or other security acceptable to CCC.

Disposals and other handling of inventory items often result in small quantities at given locations or in qualities not up to specifications. These lots are offered by the appropriate ASCS office promptly upon appearance and therefore, generally, they do not appear in the monthly Sales List.

On sales for which the buyer is required to submit proof to CCC of exportation the buyer shall be regularly engaged in the business of buying or selling commodities and for this purpose shall maintain a bona fide business office in the United States, its territories or possessions and have a person, principal,

or resident agent upon whom service of judicial process may be had.

Prospective buyers for export should note that generally, sales to United States Government agencies, with only minor exceptions will constitute domestic unrestricted use of the commodity.

Commodity Credit Corporation reserves the right, before making any sales, to define or limit export areas.

Notice to exporters. The Department of Commerce, Bureau of International Commerce, pursuant to regulations under the Export Control Act of 1949, prohibits the exportation or re-exportation by anyone of any commodities (except absorbent cotton and sterilized gauze and bandages with respect to Cuba only) under this program to Cuba, the Soviet Bloc, or Communist-controlled area of the Far East including Communist China, North Korea and the Communist-controlled area of Vietnam, except under validated license issued by the U.S. Department of Commerce, Bureau of International Commerce.

These regulations generally require that exporters, in or in connection with their contracts with foreign purchasers, where the contract involves $10,000 or more and exportation is to be made to a Group R country, obtain from the foreign purchaser a written acknowledgment of his understanding of (1) U.S. Commerce Department prohibitions (Comprehensive Export Schedule, §§ 371.4 and 371.8) against sales or resale for re-export of said commodities, or any part thereof, without express Commerce Department authorization, to the Soviet Bloc, Communist China, North Korea or the Communist-controlled area of Vietnam or to Cuba, and (2) the sanction of denial of future U.S. export privileges that may be imposed for violation of the Commerce Department regulations. Exporters who have a continuing and regular relationship with a foreign purchaser may obtain a blanket acknowledgment from such purchaser covering all transactions involving surplus agricultural commodities and manufactures thereof purchased from CCC or subsidized for export by the Secretary of Agriculture or CCC. Where commodities are to be exported by a party other than the original purchaser of the commodities from the CCC the original purchaser should inform the exporter in writing of the requirements for obtaining the signed acknowledgment from the foreign purchaser.

For all exportations, one of the destination control statements specified in Commerce Department Regulations (Comprehensive Export Schedule § 379.10(c) is required to be placed on all copies of the shipper's export declaration, all copies of the bill of lading, and all copies of the commercial invoices. For additional information as to which destination control statement to use, the exporter should communicate with the Bureau of International Commerce or one of the field offices of the Department of Commerce.

Exporters should consult the applicable Commerce Department regulations for more detailed information if desired and for any changes that may be made therein.

<table>
<tr><th>Commodity</th><th>Sales price or method of sale</th></tr>
<tr><td>Barley, bulk</td><td>
Domestic or export, unrestricted use:
Storable: Market price but not less than the Agricultural Act of 1949 formula minimum price for such sales which is 105 percent [3] of the applicable 1964 price support rate (published price support loan rate plus 12 cents per bu.) for the class, grade, and quality of the barley plus the amount shown below applicable to the type of carrier involved. If delivery is outside the area of production, applicable freight will be added. Examples of these formula minimum prices are shown below.
Nonstorable: At not less than market price as determined by CCC.
Markups and Agricultural Act of 1949 formula price examples (per bushel).
<table>
<tr><th colspan="2">Markup in cents received by</th><th colspan="2">Examples of in-store [2] formula minimum prices for No. 2 or better barley (ex-rail or barge in dollars)</th></tr>
<tr><th>Truck</th><th>Rail or barge</th><th>Terminal</th><th>General sales price</th></tr>
<tr><td>Cents
11</td><td>Cents
6</td><td>Minneapolis, Minn.
Kansas City, Mo.</td><td>$1.27
1.29</td></tr>
</table>
Availability information: For information on CCC barley sales from bin sites, contact ASCS State or county offices. For information on the disposition of barley from other locations, contact the Evanston, Kansas City, Minneapolis, or Portland ASCS grain office listed at end of table.
Export announcement sales:
(1) Under Announcement GR-368 (Revised Aug. 31, 1959), as amended, for feed grain export payment-in-kind program. (2) Under Announcement GR-212 (Revision 2, Jan. 9, 1961), for application to approved CCC barter and credit sales. CCC reserves the right to determine the class, grade, quality, and quantity to be made available for the sales under these announcements. The statutory minimum price referred to in the price adjustment provisions of these export sales announcements is 105% of the applicable price-support rate plus the adjustment referred to in above table. Sale is made at the applicable export market price, as determined by CCC; export payment-in-kind rates are deducted in arriving at barter and credit sales prices.
Available: Evanston and Kansas City ASCS offices. Stocks in Duluth or Minneapolis will be available through the Minneapolis ASCS grain office.
</td></tr>
<tr><td>Corn, bulk</td><td>
Domestic or export—unrestricted use:
A. Redemption of domestic payment-in-kind certificates: [1] Such CCC dispositions of corn, as CCC may designate, will be in redemption of certificates or rights represented by pooled certificates under a feed grain program. The minimum price at which corn shall be valued for such dispositions shall be market price, but not less than the payment-in-kind formula price for such redemptions. Such formula price shall be the applicable 1964 price support loan rate for the class, grade, and quality of the corn, plus the amount shown in C below applicable for the storage point involved.
B. General sales: [1]
1. Storable: Such CCC dispositions of storable corn, as CCC may designate as general sales, will be made during the month at market price, but not less than the Agricultural Act of 1949 formula minimum price for such sales which is 105 percent [3] of the applicable 1964 price support rate (published price support loan rate plus 15 cents per bushel) for the class, grade, and quality of the corn, plus the amount shown in C below, applicable to the storage point involved. Examples of these formula minimum prices are shown in C below. For corn in store at other than the point of production the freight from point of production to the present point of storage will also be added. CCC will normally make general sales of corn when dispositions of such corn are not being made against domestic payment-in-kind certificates.
2. Nonstorable: Such dispositions of nonstorable corn as CCC may designate as general sales will be made at not less than market price, as determined by CCC.
C. Markups and Agricultural Act of 1949 formula price examples (per bushel).
<table>
<tr><th colspan="2">Markup in cents in-store at</th><th colspan="2">Example of in-store [2] formula minimum prices for No. 2 yellow corn (14 percent MT. and 2 percent F.M.) (ex-rail or barge in dollars)</th></tr>
<tr><th>Production point</th><th>Other points</th><th>Terminal</th><th>General sales price</th></tr>
<tr><td>Cents
1½</td><td>Cents
3</td><td>Minneapolis, Minn. [6]
Chicago, Ill. [5]</td><td>$1.36¼
1.55</td></tr>
</table>
D. Availability information: For information on CCC corn sales and payments-in-kind from bin sites, contact ASCS State or county offices. For information on the disposition of corn from other locations, contact the Evanston, Kansas City, Minneapolis or Portland ASCS grain office listed at end of table.
Export announcement sales:
(1) Under Announcement GR-212 (Revision 2, Jan. 9, 1961) for application to arrangements for barter, approved CCC credit and other designated sales. (2) Under Announcement GR-368 (Revised Aug. 31, 1959), as amended, for feed grain export payment-in-kind program. CCC reserves the right to determine the class, grade, quality, and quantity to be made available for sale under the above announcements. CCC stocks of corn at West Coast seaboard terminals are available for sale under these export announcements, except such corn shall not be eligible for Title I, P.L. 480 purchase authorization or for barter. The statutory minimum price referred to in the price adjustment provisions of these export sales announcements is 105 percent of the applicable price support rate plus the adjustments referred to in subparagraph C above. Sale is made at the applicable export market price, as determined by CCC; export payment-in-kind rates are deducted in arriving at credit and barter sales prices.
Available: Evanston, Kansas City, Minneapolis, and Portland ASCS grain offices.
</td></tr>
</table>

See footnotes at end of table.

Commodity	Sales price or method of sale
Cotton, upland	Domestic or export, unrestricted use: Competitive bid under the terms and conditions of Announcement NO-C-16, as amended (Sale of Upland Cotton for Unrestricted Use). Under this announcement, upland cotton acquired under price support programs will be sold at the highest price offered but in no event at less than the higher of (a) 105 percent of the current loan rate for such cotton, plus reasonable carrying charges, or (b) the market price for such cotton, as determined by CCC. Domestic or export, unrestricted use: Competitive offers under the terms and conditions of Announcement NO-C-26 (Disposition of Upland Cotton—for exchange of PIK certificates or rights in the certificate pool for upland cotton). Upland cotton may be acquired at its domestic market price which shall be the highest price offered but not less than the minimum price determined by CCC. Export, CCC Credit Sales and Barter: Competitive bid under the terms and conditions of Announcement CN-EX-23 (Purchase of Upland Cotton for Export under the Export Credit Sales Program), Announcement CN-EX-24 (Acquisition of Upland Cotton for Export under the Barter Program), and Announcement NO-C-28 (Sale of Upland Cotton—CCC Credit and Barter Programs—1964-66 Marketing Years).
Cotton, extra long staple	Domestic or export, unrestricted use: Competitive bid under the terms and conditions of Announcements NO-C-6 (Revised July 22, 1960), as amended, and NO-C-10, as amended. Under these announcements extra long staple cotton (domestically grown) will be sold at the highest price offered but in no event at less than the higher of (a) 115 percent of the current support price for such cotton plus reasonable carrying charges, or (b) the domestic market price as determined by CCC. Export, CCC Sales for Export: Competitive bid under the terms and conditions of Announcements CN-EX-20 (Foreign-Grown Extra Long Staple Cotton Export Program) and NO-C-23 (Sale of Foreign-Grown Extra Long Staple Cotton); or competitive bid under the terms and conditions of Announcements CN-EX-22 (Extra Long Staple Cotton Export Program) and NO-C-27 (Sale of Extra Long Staple Cotton).
Available	Sale of cotton will be made by the New Orleans ASCS Commodity Office and catalogs for upland cotton and extra long staple cotton showing quantities, qualities, and location may be obtained for a nominal fee from the office.
Dairy products	Sales are in carlots only in-store at storage location of products. Submission of offers: Submit offers to the Minneapolis ASCS Commodity Office.
Butter	Domestic, unrestricted use: Announced prices, under LD-29, as amended: 62.0 cents per pound—New York, Pennsylvania, New Jersey, New England, and other States bordering the Atlantic Ocean and Gulf of Mexico. 61.25 cents per pound—Washington, Oregon, and California. All other States 61.0 cents per pound. Export: Payment-in-kind under SM-7, as amended. Competitive bid under LD-33, as amended, pursuant to invitations to bid to be issued by Minneapolis ASCS Commodity Office. Announced prices under LD-35: Any butter offered but not sold under the invitation to bid issued pursuant to LD-33 will be offered for sale through the following Monday noon at prices announced by press release from Minneapolis ASCS Commodity Office each Tuesday.
Cheddar cheese (standard moisture basis).	Domestic, unrestricted use: Announced prices under LD-29, as amended: 40.75 cents per pound—New York, Pennsylvania, New England, New Jersey, and other States bordering the Atlantic Ocean and Pacific Ocean and the Gulf of Mexico. All other States 39.75 cents per pound. Export: Competitive bid under LD-33, as amended, pursuant to invitation to bid to be issued by Minneapolis ASCS Commodity Office. Announced prices under LD-35: Any cheese offered but not sold under the invitation to bid issued pursuant to LD-33 will be offered for sale through the following Monday noon at prices announced by press release from the Minneapolis ASCS Commodity Office each Tuesday.
Nonfat dry milk	Domestic, unrestricted use: Announced prices, under LD-29, as amended: Spray process, U.S. Extra Grade, 16.40 cents per pound. Export: Payment-in-kind under SM-8, as amended. Competitive bid, under LD-33, as amended, pursuant to invitation to bid to be issued by Minneapolis ASCS Commodity Office.

See footnotes at end of table.

Commodity	Sales price or method of sale
Dry edible beans (bagged)	Unrestricted use: Domestic market price but not less than the following minimum price per hundredweight for U.S. No. 1 f.o.b. indicated points of production. Amount of paid-in-freight to be added as applicable. For other grades and locations adjust by applicable 1964 price support differentials.

Class	Price per cwt.	Area of production
Dark Red Kidney	$9.14	Michigan.
Pea	7.45	Michigan.
Great Northern	7.51	Denver rate basis.
Pinto	6.74	Denver rate basis.

Commodity	Sales price or method of sale
Flaxseed, bulk	Domestic, unrestricted use: Storable: Market price basis in-store,[2] but not less than the applicable 1964 support price for the class, grade, and quality of the flaxseed plus 14½ cents per bushel, and plus the respective amount shown below applicable to the type of carrier involved. If delivery is outside the area of production applicable freight will be added to the above.

Unit	Received by		Examples of minimum prices (ex-rail or barge)		
	Truck	Rail or barge	Terminal	Class and grade	Price
Bushel	*Cents* 14	*Cents* 6	Minneapolis	No. 1	$3.33½

Commodity	Sales price or method of sale
Grain sorghum, bulk	Nonstorable (as available): At not less than market price as determined by CCC through the Minneapolis Grain Merchandising ASCS office. Available: Through the Minneapolis Grain Merchandising ASCS office. Domestic or export, unrestricted use: A. Redemption of domestic payment-in-kind certificates:[1] Such CCC dispositions of grain sorghum, as CCC may designate, will be in redemption of certificates or rights represented by pooled certificates under a feed grain program. The minimum price at which grain sorghum shall be valued for such dispositions shall be market price, but not less than the payment-in-kind formula price for such redemption. Such formula price shall be the applicable 1964 price support loan rate for the class, grade and quality of the grain sorghum, plus the amount shown in C below applicable to the type of carrier involved. B. General sales:[1] 1. Storable: Such CCC dispositions of storable grain sorghum, as CCC may designate as general sales, will be made during the month at market price, but not less than the Agricultural Act of 1949 formula minimum price for such sales which is 105 percent [3] of the applicable 1964 price support rate (published price support loan rate plus 23 cents per hundredweight) for the class, grade and quality of the grain sorghum, plus the amount shown in C below applicable to the type of carrier involved. If delivery is outside the area of production, applicable freight will be added. Examples of these formula minimum prices are shown in C below. CCC will normally make general sales of grain sorghum when dispositions of such grain sorghum are not being made against domestic payment-in-kind certificates. 2. Nonstorable: Such dispositions of nonstorable grain sorghum as CCC may designate as general sales will be made at not less than market price, as determined by CCC.

Commodity	Sales price or method of sale
Grain sorghum, bulk (continued)	Domestic and export, unrestricted use—Continued C. Markups and Agricultural Act of 1949 formula price examples (per hundredweight).

Markup in cents received by		Examples of in-store [2] formula minimum prices for No. 2 or better grain sorghum (ex-rail or barge in dollars)	
Truck	Rail or barge	Terminal	General sales price
Cents 21	*Cents* 10	Kansas City, Mo	$2.58

D. Availability information: For information on CCC grain sorghum sales and payments-in-kind from bin sites, contact ASCS State or county offices. For information on the disposition of grain sorghum from other locations, contact the Kansas City, Evanston, Portland or Minneapolis ASCS grain office listed at end of table.

Export announcement sales:
(1) Under Announcement GR-212 (Revision 2, Jan. 9, 1961), for application to arrangements for barter, approved CCC credit and other designated sales. (2) Under Announcement GR-368 (Revised Aug. 31, 1959) as amended, for feed grain export payment-in-kind program. CCC stocks of grain sorghum in-store in California terminals are not available for sale under these export announcements. CCC reserves the right to determine the class, grade, quality, and quantity to be made available for sale under the announcements. The statutory minimum price referred to in the price adjustment provision of these export sales announcements of 105 percent of the applicable price support rate plus the adjustments referred to in subparagraph C above. Sale is made at the applicable export market price, as determined by CCC; export payment-in-kind rates are deducted in arriving at credit and barter sales prices.
Available: Evanston, Kansas City, Minneapolis, and Portland ASCS grain offices.

Oats, bulk

Domestic or export: [1]
Storable: Market price, as determined by CCC, but not less than the Agricultural Act of 1949 formula price which is 105 percent [3] of the applicable 1964 price support rate for the class, grade, and quality of the oats plus the amount shown below applicable to the storage point involved. For oats in-store at other than the point of production, the freight from point of production to the present point of storage will also be added.

Per bushel markup in-store at		Examples of per bushel formula minimum prices basis in-store		
Production point	Other points	Terminal	Grade and class	Price
Cents 6	*Cents* 7½	Chicago, [5] Ill	No. 2 (or better)	$0.89
		Minneapolis, [5] Minn		.88¾

Available: At bin sites through ASCS county offices. At other locations through the Evanston, Kansas City, Minneapolis, or Portland ASCS grain offices.
Nonstorable (as available): At not less than the market price as determined by CCC. At bin sites through ASCS county offices. At other locations through the ASCS grain offices listed at end of table.
Export announcement sales:
(1) Under Announcement GR-368 (Rev. Aug. 31, 1959) as amended for feed grain export payment-in-kind programs. (2) Under Announcement GR-212 (Revision 2, Jan. 9, 1961) for application to approved CCC credit and other designated sales. Oats will not be sold for application to Title I, or Title IV, P.L. 480 purchase authorizations or for barter. Sale is at the applicable export market price, as determined by CCC; export payment-in-kind rates are deducted in arriving at credit sales prices.
Available: Evanston, Kansas City, Minneapolis, and Portland ASCS grain offices.

See footnotes at end of table.

Commodity	Sales price or method of sale
Peanuts, shelled or unshelled (farmers' stock as available).	Domestic for crushing or export: Competitive bid under CCC Peanut Announcement 1 (Revised Jan. 4, 1962), as amended and supplemented March 3, 1964.
Rice, rough	Domestic, unrestricted use: Market price but not less than 1964 loan rate plus 5 percent, plus 22 cents per hundredweight, basis in store. Export: As milled or brown under Announcement GR-369, Revision II, Rice Export Program—Payment-in-kind, and under GR-379, Revision I, for approved credit sales.
Available	Prices, quantities, and varieties of rough rice available from Kansas City ASCS Commodity Office.
Rye, bulk	Domestic or export, [1] unrestricted use: Storable: Market price, as determined by CCC, but not less than the Agricultural Act of 1949 formula price which is 105 percent [3] of the applicable 1964 price support rate for the class, grade, and quality of the grain plus the respective amount shown below applicable to the type of carrier involved. If delivery is outside the area of production applicable freight will be added to the above.

Per bushel markup received by		Examples of per bushel formula minimum price (ex-rail or barge)		
Truck	Rail or barge	Terminal	Class and grade	Price
Cents 12	*Cents* 6	Minneapolis, Minn	No. 2 or better (or No. 3 on TW only).	$1.42

Available: At bin sites through ASCS county offices. At other locations through the Evanston, Kansas City, Minneapolis, or Portland ASCS grain offices.
Nonstorable (as available): At not less than market price as determined by CCC through the ASCS grain offices listed at end of table.
Export:
(1) Under Announcement GR-368 (Revised Aug. 31, 1959) as amended, for feed grain export payment-in-kind program. (2) Under Announcement GR-212 (Revision 2, Jan. 9, 1961), for application to arrangements for approved CCC credit and other designated sales. Sale is made at the applicable export market price, as determined by CCC; export payment-in-kind rates are deducted in arriving at credit sales prices.
Available: Evanston, Kansas City, and Portland ASCS offices; also Minneapolis ASCS grain office for rye stored in terminals in Minneapolis.

Soybeans, bulk

Domestic or export: Market price, but not less than the 1964 basic loan rate for No. 2 grade, basis point of production plus 19 cents per bushel. Market discounts for quality factors will be applied to the basic price to determine the actual minimum sales prices. If delivery is outside the area of production, applicable freight and out-elevation charges at country loading point and in-elevation charges at subterminal or terminal storage point will be added to the above price.
Available: At bin sites through ASCS county offices. At other locations through the Evanston, Kansas City and Minneapolis ASCS offices.

Commodity	Sales price or method of sale
Wheat, bulk	Domestic or export, unrestricted use: A. Storable: The minimum price for such wheat shall be the highest of (a) market price as determined by CCC, (b) a minimum price for such wheat determined by CCC, or, (c) the Agricultural Act of 1949 formula price which is 105 percent of the applicable 1964 price support loan rate for the class, grade, and quality [4] of the wheat plus the amount shown in C below applicable to the type of carrier involved. If delivery is outside the area of production applicable freight will be added to such formula price. B. Nonstorable: Such dispositions of nonstorable wheat as CCC may designate will be made at not less than market price, as determined by CCC. C. Markups and formula minimum price examples.

Per bushel markup received by		Examples of per bushel formula minimum price basis in-store [2] ex-rail or barge		
Truck	Rail or barge	Terminal	Class and grade	Price
Cents 12	*Cents* 6	Chicago	No. 1 RW	$1.71
		Kansas City	No. 1 HW	1.67
		Portland	No. 1 SW	1.61

D. Availability information: Storable Northern Spring Wheat sales for unrestricted use have been suspended until further notice. For information on CCC wheat sales from bin sites, contact ASCS State or county offices. For information on the disposition of wheat from other locations, contact the Evanston, Kansas City, Minneapolis, or Portland ASCS grain office listed at end of table.

Export announcement sales:

(1) Under Announcement GR-345 (Revised July 13, 1962) as amended for export under the wheat export payment-in-kind program except that (a) durum wheat will not be eligible for P.L. 480, Title I sales, and (b) hard winter wheat exports through west coast ports will not be eligible for Title I, P.L. 480 sales, (2) under Announcement GR-261 (Rev. 2, Jan. 9, 1961 as amended) for export as wheat and under Announcement GR-262 (Rev. 2, Jan. 9, 1961) for export as flour for application under arrangements for barter and approved CCC credit sales only at prices determined daily. Hard winter wheat will not be sold through west coast ports under Announcements GR-261 or GR-262.

Available: Evanston, Kansas City, Minneapolis and Portland ASCS grain offices. (See above for limited availability of hard winter wheat through west coast ports.)

[1] Such dispositions shall be for domestic unrestricted use or for export.

[2] The delivery basis for these examples is "in-store", and market prices will be on the same basis. The formula price delivery basis for bin site sales will be f.o.b.

[3] To compute, multiply applicable support price by 1.05, round product up to nearest whole cent and add amount shown in the appropriate table and any applicable freight.

[4] On sales made on a protein basis, the loan rate shall be increased by the applicable market or loan bulletin protein premium for the protein content of the wheat, whichever is higher. On sales made on a sedimentation basis, the loan rate shall be increased by the applicable loan bulletin sedimentation premium for the sedimentation value of the wheat. On sales made on a combined sedimentation and protein basis, the loan rate shall be adjusted by the applicable loan bulletin sedimentation and protein premiums and discounts for the respective sedimentation value and protein contents of the wheat.

[5] Woodford County, Ill., origin.

[6] Redwood County, Minn., origin.

USDA AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE OFFICES

GRAIN OFFICES

Evanston ASCS Commodity Office, 2201 Howard Street, Evanston, Ill., 60202. Telephone: Long distance—University 9-0600 (Evanston Exchange). Local—Rogers Park 1-5000 (Chicago, Ill.).

Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Vermont, and West Virginia.

Branch Office—Minneapolis ASCS Branch Office, 310 Grain Exchange Building, Minneapolis, Minn., 55415. Telephone: 334-2051.

Minnesota, Montana, North Dakota, South Dakota, and Wisconsin.

Kansas City ASCS Commodity Office, 8930 Ward Parkway (P.O. Box 205), Kansas City, Mo., 64141. Telephone: Emerson 1-0860.

Alabama, Arkansas, Colorado, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, Texas, and Wyoming.

Branch Office—Portland ASCS Branch Office, 1218 Southwest Washington Street, Portland, Oreg., 97205. Telephone: 226-3411.

Alaska, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington (Domestic and Export Sales), Arizona and California (Export sales only).

Branch Office—Berkeley ASCS Branch Office, 2020 Milvia Street, Berkeley, Calif., 94704. Telephone: Thornwall 1-5121.

Arizona and California (Domestic sales only).

PROCESSED COMMODITIES OFFICE—(ALL STATES)

Minneapolis ASCS Commodity Office, 6400 France Avenue, South Minneapolis, Minn., 55410. Telephone: 334-3200.

COTTON OFFICES—(ALL STATES)

New Orleans ASCS Commodity Office, Wirth Building, 120 Marais Street, New Orleans, La., 70112. Telephone: 529-2411.

Representative of General Sales Manager, New York Area: Joseph Reidinger, 80 Lafayette Street, New York, N.Y., 10013. Telephone: Rector 2-8000.

Representative of General Sales Manager, West Coast Area: Callan B. Duffy, Appraisers' Building, Room 802, 630 Sansome Street, San Francisco, Calif., 94111. Telephone: 556-6185.

(Sec. 4, 62 Stat. 1070, as amended; 15 U.S.C. 714b. Interpret or apply Sec. 407, 63 Stat. 1066; Sec. 105, 63 Stat. 1051, as amended by 76 Stat. 612; Secs. 303, 306, and 307, 76 Stat. 614-617; 7 U.S.C. 1427; and 1441 (note))

Signed at Washington, D.C., on November 9, 1964.

E. A. JAENKE,
Acting Executive Vice President, Commodity Credit Corporation.

[F.R. Doc. 64-11635; Filed, Nov. 16, 1964; 8:45 a.m.]

Rural Electrification Administration

DEPUTY ADMINISTRATOR ET AL.

Delegations of Authority

Pursuant to the authority delegated by the Secretary of Agriculture to the Administrator, Rural Electrification Administration, by Sections 116 and 1500 of the Delegations of Authority and Assignment of Functions dated December 24, 1953, effective January 2, 1954 (19 F.R. 74), as amended made pursuant to Reorganization Plan No. 2 of 1953 and other authorizations, the following delegations of authority have been made:

A. Authority has been delegated to the officials listed below to exercise, in the absence of the Administrator, and in the following order of precedence, any powers of the Administrator:

1. Deputy Administrator.
2. Assistant Administrator—Operations.
3. Assistant Administrator—Electric, designated to direct the electric program.
4. Assistant Administrator—Telephone, designated to direct the telephone program.
5. Such other official as shall be designated by the Administrator.

B. Authority has been delegated to the Deputy Administrator to approve or execute:

1. REA bulletins and staff instructions involving more than one program except those establishing policy.
2. Agreements or contracts covering management or operations services between telephone and electric borrowers.
3. Agreements between REA electric and telephone borrowers for the general joint use of facilities.
4. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs C through Z hereof.

C. Authority has been delegated to the Assistant Administrator—Operations, to approve or execute:

1. REA bulletins and staff instructions, except those establishing policy, concerning activities included in the following divisions: Controller's, Information Services, Personnel Management, and Program Services.
2. Contracts obligating the administrative funds of REA.
3. Withdrawal of approval of Certified Public Accountants.
4. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs Y and Z hereof.

D. Authority has been delegated to the Assistant Administrator—Electric, to approve or execute for electric borrowers:

1. REA bulletins and staff instructions for the electric program except those establishing policy.

2. Action concerning disapproval of the selection of a manager or an attorney by a borrower.

3. Electric wholesale, wheeling, and interchange power contracts.

4. Cash sales of property in place or sales of real estate by borrowers involving transactions of more than $50,000 or more than 10 percent of a borrower's total assets, but not in excess of $100,000, and releases of lien and all other documents relating to such sales.

5. Contracts for acquisition by electric borrowers of existing facilities in place.

6. The use and reimbursement of general funds for construction purposes exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, when approval is required, except for facilities subject to power supply survey and requiring certification by the Administrator.

7. Authorization for advance of loan funds under "conditional agreements" when the conditions have been met; the placement of "stop orders" on loan funds subsequent to the approval of the loan and their release.

8. Loan budget adjustments which would constitute administrative approval of the following proposals except those which would provide funds for facilities subject to power supply survey and requiring certification by the Administrator.

a. Alter the capacity of generating facilities.

b. Change transmission facilities to serve loads or to connect to power sources that were not contemplated at the time of loan approval.

c. Increase the cost of headquarters facilities in excess of 10 percent of the amount approved to date.

d. Acquire electric plant.

9. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs E, H, L and V hereof.

E. Authority has been delegated to the Deputy Assistant Administrator—Electric, to approve or execute for electric borrowers:

1. Basis date agreements on approved forms providing for modification of existing mortgage notes.

2. Changes in borrowers' corporate status.

3. Action concerning payment of dividends or other cash distribution.

4. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs H, L, and V hereof.

F. Authority has been delegated to the Assistant Administrator—Telephone, to approve or execute for telephone borrowers:

1. REA bulletins and staff instructions for the telephone program except those establishing policy.

2. Action concerning disapproval of the selection of a manager or an attorney by a borrower.

3. Cash sales and removals of property in place or sales of real estate by telephone borrowers involving transactions of more than $50,000 or more than 10 percent of a borrower's total assets, but not in excess of $100,000, and releases of lien and all other documents relating to such sales.

4. Contracts for acquisition by telephone borrowers of existing facilities in place.

5. Interim financing proposals, subject to subsequent approval of a loan or advance of funds.

6. Authorization for advance of loan funds where waiver of loan contract provisions or new or revised administrative findings are involved, except where equity requirements have not been met or where new findings of feasibility (studies) are required.

7. Engineering fee schedules.

8. Loan budget adjustments involving legal or policy questions or a new or revised administrative finding, except where new feasibility findings (studies) are required.

9. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs G, Q, and W hereof.

G. Authority has been delegated to the Deputy Assistant Administrator—Telephone, to approve or execute for telephone borrowers:

1. Basis date agreements on approved forms providing for modification of existing mortgage notes.

2. Changes in borrowers' corporate status.

3. First advance of loan funds where waiver of loan contract conditions or new or revised administrative findings are not involved.

4. Cash sales and removals of borrower's property in place of sales of real estate involving transactions not exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, and releases of lien and all other documents relating to such sales.

5. The purchase price of properties to be acquired by telephone borrowers where the purchase price exceeds REA appraisal value.

6. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs Q and W hereof.

H. Authority has been delegated to the Area Directors—Electric, to approve or execute for electric distribution borrowers:

1. The award of contracts for construction and for the purchase of equipment.

2. Agreements for the joint use of electric borrowers' facilities, except for general joint use agreements between electric and telephone borrowers.

3. Loan budget adjustments excluding those which would constitute administrative approval of proposals to:

a. Provide funds for facilities subject to a Power Supply Survey and requiring certification by the Administrator.

b. Alter the capacity of generating facilities.

c. Change transmission facilities to serve loads or to connect to power sources that were not contemplated at the time of loan approval.

d. Increase the cost of headquarters facilities in excess of 10 percent of the amount approved to date.

e. Acquire electric plant.

4. Agreements between electric borhowers for operation of a borrower's facilities.

5. Waiver of defects in title and rights-of-way obtained by borrowers.

6. Cash sales of electric borrowers' property in place or sales of real estate involving transactions not exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, and releases of lien and all other documents relating to such sales.

7. The use or reimbursement of general funds for construction purposes not exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, when approval is required, except for facilities subject to power supply survey and requiring certification by the Administrator.

8. Use of non-standard drawings, materials, and equipment.

9. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs I, J, and K hereof.

I. Authority has been delegated to Chiefs, Engineering Branches—Electric, to approve or execute for electric distribution borrowers:

1. Right-of-way clearing contracts.

2. The selection by borrower of an engineer or architect and contracts for engineering and architectural services.

3. Contracts for construction and for the purchase of equipment.

4. Final inventory documents and payments to contractors and engineers.

5. Financial Requirement and Expenditure Statements and work order inventories.

6. Plans and specifications and work orders for construction of generation facilities and for headquarters, garage, and warehouse facilities.

7. Technical engineering studies of distribution and transmission facilities requiring REA approval.

8. Borrowers' selection of force account method of construction.

9. Proposals for off-peak load control equipment.

10. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraph J hereof.

J. Authority has been delegated to Field Engineers—Electric, to approve or execute for electric distribution borrowers:

1. Plans and specifications for construction of distribution and transmission facilities and for preliminary design data and plans and profile sheets for transmission facilities.

2. Estimate work orders for construction of distribution and transmission facilities.

3. Construction contracts, on standard forms, for distribution line extensions and improvements.

4. Engineering approval of large power applications.

5. Final statements of engineering fees.

6. Annual work plans.

7. Certificates of completion for distribution and transmission contract construction.

8. Voltage drop, sectionalizing, and power factor studies.

K. Authority has been delegated to Chiefs, Operations Branches—Electric, to approve or execute for electric distribution borrowers:

1. Retail rate contracts between borrowers and others relating to large power installations.

2. Borrowers' cash sales of material and equipment excluding property in place, when approval is required, and releases of lien and all other documents relating to such sales.

3. Insurance and fidelity coverage of borrowers.

4. Special legal fees to be paid by borrowers from loan funds.

5. Borrowers' requests for approval to loan in excess of $2,500 of Section 5 loan funds other than to commercial or industrial enterprises.

6. Purchase of real estate by borrowers.

7. Certificates regarding a borrower's incorporation and changes in a borrower's corporate status or name.

8. Affidavits, certificates and statements with respect to the recording, filing or renewing of mortgages and deeds of trust, including financing statements under the Uniform Commercial Code.

9. Municipal and county franchises obtained by borrowers from the standpoint of acceptability for REA loans.

10. Selection of Certified Public Accountants by electric distribution borrowers.

L. Authority has been delegated to the Director, Power Supply Division—Electric, to approve or execute for electric power-type borrowers:

1. Agreements for the joint use of electric borrowers' facilities, except for general joint use agreements between electric and telephone borrowers.

2. Loan budget adjustments excluding those which would constitute administrative approval of proposals to:

a. Provide funds for facilities subject to a power supply survey and requiring certification by the Administrator.

b. Alter the capacity of generating facilities.

c. Change transmission facilities to serve loads or to connect to power sources that were not contemplated at the time of loan approval.

d. Increase the cost of headquarters facilities in excess of 10 percent of the amount approved to date.

e. Acquire electric plant.

3. Agreements between power-type borrowers for operation of a borrower's facilities.

4. Waiver of defects in title and rights-of-way obtained by borrowers.

5. Cash sales of borrowers' property in place or sales of real estate involving transactions not exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, and releases of lien and all other documents relating to such sales.

6. The use or reimbursement of general funds for construction purposes not exceeding $50,000 or 10 percent of a borrower's total assets, whichever is the lesser, when approval is required, except for facilities subject to power supply survey and requiring certification by the Administrator.

7. Use of non-standard drawings, materials, and equipment.

8. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs M, N, O, and P hereof.

M. Authority has been delegated to the Assistant Director, Postloan—Electric, to approve or execute for power-type borrowers:

1. The award of contracts for construction and for the purchase and installation of generating equipment.

2. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs N, O, and P hereof.

N. Authority has been delegated to the Chief, Power Plants Branch—Electric, to approve or execute for power-type borrowers:

1. The selection by borrower of an engineer or architect and contracts for engineering and architectural services.

2. Plans and specifications and work orders for construction of generation facilities.

3. Borrowers' selection of force account method of construction.

4. Final statements of engineering fees.

5. Purchase by power-type borrowers of generating plant sites.

6. Contracts for the construction and the purchase and installation of generating facilities.

O. Authority has been delegated to the Chief, Transmission Branch—Electric, to approve or execute for power-type borrowers:

1. Right-of-way clearing contracts.

2. The selection by borrower of an engineer and contracts for engineering services.

3. Technical engineering studies of transmission and distribution facilities requiring REA approval.

4. Borrowers' selection of force account method of construction.

5. Plans and specifications for construction of transmission and distribution facilities and for preliminary design data and plans and profile sheets for transmission facilities.

6. Estimate work orders for construction of transmission and distribution facilities.

7. Engineering approval of large power applications.

8. Final statements of engineering fees.

9. Certificates of completion for transmission and distribution contract construction.

10. Voltage drop, sectionalizing, and power factor studies.

11. Contracts for the construction of transmission facilities.

12. Purchase of substation sites by power borrowers.

P. Authority has been delegated to the Chief, Management Branch—Electric, to approve or execute for power-type borrowers:

1. Final inventory documents and payments to contractors and engineers.

2. Financial Requirement and Expenditure Statements and work order inventories.

3. Retail rate contracts between power-type borrowers and others relating to large power installations.

4. Borrowers' cash sales of material and equipment excluding property in place, when approval is required, and releases of lien and all other documents relating to such sales.

5. Insurance and fidelity coverage of borrowers.

6. Special legal fees to be paid by borrowers from loan funds.

7. Certificates regarding a borrower's incorporation and changes in a borrower's corporate status or name.

8. Affidavits, certificates and statements with respect to the recording, filing or renewing of mortgages and deeds of trust, including financing statements, under the Uniform Commercial Code.

9. Municipal and county franchises obtained by borrowers from the standpoint of acceptability for REA loans.

10. The selection by a borrower of a Certified Public Accountant to perform audits.

11. Contracts for construction of headquarters, garage, and warehouse facilities.

12. Plans and specifications and work orders for headquarters, garage, and warehouse facilities.

13. The selection by a borrower of an architect and contracts for architectural services.

14. Purchase of real estate other than substation and generating plant sites.

Q. Authority has been delegated to the Area Directors—Telephone, to approve or execute for telephone borrowers:

1. Borrowers' lease agreements and contracts covering management or operations services except those involving electric borrowers.

2. Increases in salaries and other compensation to be paid to borrowers' officers, directors and managers, pursuant to authority, if any, granted under the REA mortgage.

3. Borrowers' use of non-standard operating reports.

4. Designation of borrowers required to obtain CPA audits.

5. The use of equity funds by borrowers prior to the first release of loan funds.

6. Area coverage design report and Form 780.

7. Borrowers' requests to waive competitive bidding for central office equipment where the borrower has existing equipment to be retained.

8. Award of contracts for construction and for central office equipment.

9. Loan budget adjustments as specified except those involving legal or policy questions or new or revised administrative findings.

10. Selection by telephone borrowers of the force account method of construction.

11. Use of non-standard drawings, materials, and equipment.

12. Waiver of defects in title and rights-of-way.

13. Letters to loan applicants setting forth loan requirements proposed for inclusion in a pending loan recommendation.

14. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraphs R, S, and T hereof.

R. Authority has been delegated to the Chiefs, Engineering Branches—Telephone, to approve or execute for telephone borrowers:

1. Contracts, including amendments thereto for construction and central office equipment.

2. Plans and specifications for central office equipment, radio and microwave equipment, commercial office, garage, and warehouse buildings and for non-standard central office equipment buildings.

3. Joint use agreements between telephone borrowers and parties other than REA borrowers.

4. The selection by a borrower of an engineer or an architect and contracts for engineering and architectural services.

5. Statement of final engineering fees.

6. Borrowers' proposals and cost estimates for force account engineering and construction.

7. Borrowers' proposals for the purchase of additions and modifications to central office equipment.

8. Contracts and amendments thereto, for the purchase of special equipment such as carrier, radio, repeaters, etc.

9. Financial requirement statements.

10. Final inventory documents and payments to contractors and engineers.

11. Purchase of real estate by borrowers.

12. Loan budget adjustments as specified except those involving legal or policy questions or new or revised administrative findings.

13. In addition, independently, all matters and documents as to which authority to approve or execute is conferred upon others in paragraph S hereof.

S. Authority has been delegated to Field Engineers—Telephone, to approve or execute for telephone borrowers:

1. Plans and specifications for outside plant, standard office buildings, repeaters, carrier equipment and additions to radio and microwave equipment.

2. Borrowers' proposals for and completed construction of system improvements and extensions, when required.

3. Borrowers' proposals for purchase of repeaters, carrier equipment and additions to radio and microwave equipment.

4. Selection by the borrower of the method of installing repeaters and carrier equipment.

5. Line extension contracts.

T. Authority has been delegated to the Chiefs, Operations Branches—telephone, to approve or execute for telephone borrowers:

1. Affidavits, certificates and statements with respect to the recording, filing or renewing of mortgages and deeds of trust, including financing statements under the Uniform Commercial Code.

2. Municipal and county franchises obtained by borrowers from the standpoint of acceptability for REA loans.

3 Special legal fees to be paid by borrowers from loan funds.

4. Certificates regarding a borrower's incorporation and articles of incorporation and bylaws and changes in a borrower's corporate name.

5. State regulatory body orders and approvals from the standpoint of acceptability for REA loans.

6. Borrowers' cash sales of material and equipment, excluding property in place, when approval is required, and releases of lien and all other documents relating to such sales.

7. Borrowers' insurance and fidelity coverage.

8. Selection of Certified Pubilc Accountants to perform audits.

9. Forms of stock and equity certificates.

10. Loan budget adjustments as specified except those involving legal or policy questions or new or revised administrative findings.

U. Authority has been delegated to the Director, Rural Areas Development Staff to approve loans by borrowers of between $2,500 and $25,000 of Section 5 loan funds to commercial or industrial enterprises.

V. Authority has been delegated to the Director, Electric Standards Division to approve or accept reports and invoices submitted under contracts covering research and services performed for REA in connection with the electric program.

W. Authority has been delegated to the Director, Telephone Standards Division to approve or accept reports and invoices submitted under contracts covering research and services performed for REA in connection with the telephone program.

X. Authority has been delegated to the Technical Standards Committees:

1. Committees "A" (Electric and Telephone) to accept or reject all proposals of standards, standard specifications, drawings, materials and equipment submitted for acceptance for use on REA financed electric and/or telephone systems.

2. Committees "B" (Electric and Telephone) to review and make final decision on cases referred to it by Committee "A" or by appeal from a sponsor from an adverse decision of Committee "A".

Y. Authority has been delegated to the Controller and to the Chief, Administrative and Loan Accounting Branch, Controller's Division to:

1. Execute endorsements or assignments of promissory notes or other collateral pledged by borrowers as security for Rural Electrification Administration loans, as may be necessary in connection with the return of such documents to borrowers because of the payment of the obligations in full or in order that the borrowers may institute legal action thereon or in connection therewith.

2. Cancel or endorse the fact of payment on borrowers' notes which have been paid in full or which are to be returned to borrowers by reason of the cancellation of such notes resulting from the receipt by REA of refunding, renewal, or substituted notes.

Z. Authority has been delegated to the Director, Program Services Division, the Chief, General Services Branch, Program Services Division and to the Head, Supply and Space Management Unit, General Services Branch, Program Services Division to approve the procurement of equipment, materials and services for REA.

In the event the incumbents of positions to whom delegations are made herein are absent or are unable to act, the person designated to act shall exercise the authority conferred by such delegations. Incumbents of positions delegated authority herein are authorized to designate persons to act for them in their absence. Such designation shall be in accordance with any instructions issued by the incumbent's supervisors.

There is reserved in the Administrator authority for all matters not delegated hereby, or by other written delegation, including without limitation:

1. The making or rescission of loans.

2. Extensions of loan periods pursuant to Section 12 of the Rural Electrification Act, as amended.

3. Execution of instruments relating to inter-borrower transfers involving the assumption of indebtedness.

These delegations supersede all prior delegations with reference to these matters.

Issued this 12th day of November 1964.

NORMAN M. CLAPP,
Administrator.

[F.R. Doc. 64–11703; Filed, Nov. 16, 1964; 8:50 a.m.]

DEPARTMENT OF THE TREASURY

Foreign Assets Control Office

CASSIA

Importation Directly From Taiwan; Available Certification by Government of Taiwan

Notice is hereby given that certificates of origin issued by the Ministry of Economic Affairs of the Government of Taiwan under procedures agreed upon between that government and the Foreign Assets Control are now available with respect to the importation into the United States directly, or on a through bill of lading, from Taiwan of the following additional item:

Cassia.

[SEAL] MARGARET W. SCHWARTZ,
Director, Foreign Assets Control.

[F.R. Doc. 64–11779; Filed, Nov. 16, 1964; 10:00 a.m.]

ATOMIC ENERGY COMMISSION

[Docket No. 50–123]

CURATORS OF THE UNIVERSITY OF MISSOURI

Notice of Issuance of Facility License Amendment

Please take notice that the Atomic Energy Commission has issued effective

as of the date of issuance, Amendment No. 3, set forth below, to Facility License No. R–79. The license authorizes The Curators of the University of Missouri ("the licensee") to possess and operate the pool-type nuclear reactor located on the University's campus at Rolla, Missouri. The amendment authorizes the licensee to install and use boron-steel shim-safety rods in place of the boron carbide rods presently in use and to load the reactor with an excess reactivity of 0.030 above cold clean critical for short periods of time, not to exceed seven consecutive days, for the purpose of control rod calibration in accordance with the application for license amendment dated September 28, 1964.

The Commission has found that:

1. The application for amendment complies with the requirements of the Atomic Energy Act of 1964, as amended, and the Commission's regulations set forth in Title 10, Chapter I, CFR;

2. Prior public notice of proposed issuance of this amendment is not required since the amendment does not involve significant hazards considerations different from those previously evaluated;

3. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public.

Within 15 days from the date of publication of this notice in the FEDERAL REGISTER, the licensee may file a request for a hearing, and any person whose interest may be affected by this proceeding may file a petition for leave to intervene. Requests for a hearing and petitions to intervene shall be filed in accordance with the provision of the Commission's "Rules of Practice," 10 CFR Part 2. If a request for a hearing or a petition for leave to intervene is filed within the time prescribed in this notice, the Commission will issue a notice of hearing or an appropriate order.

For further details with respect to this amendment see (1) the application for license amendment dated September 28, 1964 and (2) a related hazards analysis prepared by the Research and Power Reactor Safety Branch of the Division of Reactor Licensing, both of which are available for public inspection at the Commission's Public Document Room, 1717 H. Street NW., Washington, D.C. A copy of item (2) above may be obtained at the Commission's Public Document Room, or upon request addressed to the Atomic Energy Commission, Washington, D.C., 20545, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Md., this 6th day of November 1964.

For the Atomic Energy Commission.

ROGER S. BOYD,
Chief, Research and Power Reactor Safety Branch, Division of Reactor Licensing.

[License No. R–79, Amdt. 3]

License No. R–79, as amended, which authorizes The Curators of the University of Missouri to possess and operate the nuclear reactor located on the campus of the University of Missouri at Rolla, Missouri, is hereby further amended as follows:

1. Add a new subparagraph 4.M. to read as follows:

M. The Curators of the University of Missouri are authorized to install and use boron-steel shim-safety rods in place of the boron carbide rods presently in use in the reactor in accordance with the application for license amendment dated September 28, 1964.

2. Amend subparagraph 4.B. of License No. R–79 to read as follows:

B. The excess reactivity of the core assembly alone or with any fixed experiment in place shall not exceed 0.007 with the exception noted in 4.C. below.

3. Amend Subparagraph 4.C. of License No. R–79 to read as follows:

C. The fuel loading shall be such that the total excess reactivity above cold, clean critical shall at no time exceed 0.015; provided, however, that for one period not to exceed seven consecutive days subsequent to November 1, 1964, and one period not to exceed seven consecutive days in the period from May 1 to September 1 of each year, it may be as large as 0.030 solely for the purpose of control rod calibration. The results of the initial rod calibration shall be reported to the Commission in writing within 30 days subsequent to the first above described period. The controls of the reactor shall be manipulated only by licensed senior reactor operators when the excess reactivity of the core assembly alone or with any fixed experiment in place exceeds 0.007.

This amendment is effective as of the date of issuance.

Date of Issuance: November 6, 1964.

For the Atomic Energy Commission.

ROGER S. BOYD,
Chief, Research and Power Reactor Safety Branch, Division of Reactor Licensing.

[F.R. Doc. 64–11648; Filed, Nov. 16, 1964; 8:45 a.m.]

[Docket No. 50–2]

UNIVERSITY OF MICHIGAN

Notice of Issuance of Facility License Amendment

Please take notice that the Atomic energy Commission has issued, effective as of the date of issuance, Amendment No. 14, set forth below, to Facility License No. R–28. The license authorizes the Regents of the University of Michigan (the University) to operate the Ford Nuclear Reactor located on the University's campus at Ann Arbor, Mich.

The license amendment authorizes the University to (1) install a heavy water reflector tank on one face of the reactor core, and (2) operate the reactor, as modified, in accordance with the procedures described in the application for license amendment dated July 24, 1964, and supplement thereto dated October 5, 1964.

The Commission has found that:

1. The application for amendment complies with the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations set forth in Title 10, Chapter I, CFR;

2. Prior public notice of proposed issuance of this amendment is not required since the amendment does not involve significant hazards considerations different from those previously evaluated;

3. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Within fifteen (15) days from the date of publication of this notice in the FEDERAL REGISTER, the licensee may file a request for a hearing, and any person whose interest may be affected by this proceeding may file a petition for leave to intervene. A request for a hearing and petitions to intervene shall be filed in accordance with the provisions of the Commission's "Rules of Practice," 10 CFR Part 2. If a request for a hearing or a petition for leave to intervene is filed within the time prescribed in this notice, the Commission will issue a notice of hearing or an appropriate order.

For further details with respect to this amendment, see (1) the application for license amendment and supplement thereto, and (2) a related hazards analysis prepared by the Research & Power Reactor Safety Branch of the Division of Reactor Licensing, both of which are available for public inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. A copy of item (2) above may be obtained at the Commission's Public Document Room, or upon request addressed to the Atomic Energy Commission, Washington, D.C., 20545, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Md., this 6th day of November 1964.

For the Atomic Energy Commission.

ROGER S. BOYD,
Chief, Research and Power Reactor Safety Branch, Division of Reactor Licensing.

[License No. R–28, Amdt. 14]

1. Facility License No. R–28, as amended, which authorizes the Regents of the University of Michigan (hereinafter "the University") to operate the Ford Nuclear Reactor (hereinafter "the reactor") on the University's campus at Ann Arbor, Michigan, is hereby further amended as follows:

A. The University is authorized to (1) install a heavy water reflector tank on one face of the reactor core and (2) operate the reactor, as modified, in accordance with the procedures described in the application for license amendment dated July 24, 1964, and supplement thereto dated October 5, 1964, and in accordance with the applicable provisions of License No. R–28, as amended.

2. This amendment is effective as of the date of issuance.

Date of issuance: November 6, 1964.

For the Atomic Energy Commission.

ROGER S. BOYD,
Chief, Research and Power Reactor Safety Branch, Division of Reactor Licensing.

[F.R. Doc. 64–11649; Filed, Nov. 16, 1964; 8:45 a.m.]

CIVIL AERONAUTICS BOARD

[Order E–21497]

AIR TRAFFIC CONFERENCE OF AMERICA

Order Approving Agreement Amending Standard Agent's Ticket and Area Settlement Plan

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., on the 12th day of November 1964.

On April 24, 1964, the Board approved resolutions of members of the Air Traffic Conference of America (ATC) establishing a "Standard Agent's Ticket and Area Settlement Plan" (Plan).[1] Under the Plan as approved, ATC-appointed agents are required to use a single standard form of ticket in the sale of passenger air transportation involving a journey wholly within the United States (except Alaska), Canada or Hawaii, and for international air transportation between the 48 contiguous States and Canada. On August 24, 1964, the members of ATC filed a resolution (Agreement CAB 16874–A3) which would permit non-ATC members of the International Air Transport Association (IATA) to participate in the Plan on an individual basis.

In comments filed September 14, 1964, the American Society of Travel Agents (ASTA) requested the Board to disapprove the agreement on the ground that participation in the Plan by individual IATA carriers, rather than all of them, would create a confusing administrative situation for agents representing several carriers. In Order E–21369 dated October 7, 1964, the Board concluded tentatively to approve the resolution subject to specified conditions, but deferred final action for twenty days to afford interested persons an opportunity to comment on the matter. Responses to the order were received from British Overseas Airways Corporation (BOAC) and ASTA.

BOAC indicates, in effect, that agents' administrative difficulties would, at the most, be minimal, and that, until all IATA members become parties to the Plan, BOAC will leave its own ticket stock with those agents who wish to retain it, giving them the choice as to whether to ticket under the Plan or otherwise.

ASTA's response states: "ASTA would withdraw its objections to this resolution provided that the Board's order approving this resolution clearly establishes: (1) That the ATC may not terminate the agreement of a sales agent who does not desire to use the Plan for non-ATC members; (2) that non-ATC members may not compel an agent to utilize this Plan; and (3) that both ATC and non-ATC members make available to a sales agent individual carrier ticket stock for transportation other than that wholly within the United States (except Alaska), Canada and Hawaii, and transportation between the 48 contiguous states and Canada."

One of the conditions proposed in Order E–21369 would require that a Sales Agency Agreement not be subject to termination by the ATC because of an agent's failure to execute an amendment thereto applying the Plan's procedures to sales of international air transportation on behalf of a non-ATC carrier. This condition would appear to resolve any questions as to possible concerted carrier action against an agent pursuant to the agreement. Otherwise, we believe that the questions of whether and when an individual ATC agent should be required by a specific IATA carrier to utilize the Plan, and of its use in situations where it is not by its terms specifically mandatory are matters which properly should be decided by the parties directly involved.[2]

Based upon the foregoing, the Board finds that approval of the agreement would not be adverse to the public interest if made subject to the conditions proposed in Order E–21369, and that its findings and conclusions as expressed in that Order should be made final.[3]

Accordingly, it is ordered:

1. That Agreement CAB 16874–A3 be and it hereby is approved, subject to the conditions enumerated below;

2. That an agent's Sales Agency Agreement shall not be subject to termination by the ATC because of the agent's failure to execute an amendment applying the Plan's procedures to sales of international air transportation on behalf of a non-ATC carrier; and

3. That the name of each non-ATC carrier entering the Plan and the effective date of its entry be filed with the Board not later than such date.

This order will be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board.

[SEAL] HAROLD R. SANDERSON,
Secretary.

[F.R. Doc. 64–11704; Filed, Nov. 16, 1964; 8:50 a.m.]

[Docket No. 14945; Order E–21498]

INTERNATIONAL AIR TRANSPORT ASSOCIATION

Order Relating to Specific Commodity Rates

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., on the 12th day of November 1964.

Agreement adopted by Joint Conference 1–2 of the International Air Transport Association relating to specific commodity rates, Docket 14945, Agreement C.A.B. 17868, R–14.

There has been filed with the Board, pursuant to section 412(a) of the Federal Aviation Act of 1958 (the Act) and Part 261 of the Board's Economic Regulations, an agreement between various air carriers, foreign air carriers, and other carriers, embodied in the resolutions of Joint Conference 1–2 of the International Air Transport Association (IATA), and adopted pursuant to the provisions of Resolution 590 (Commodity Rates Board).

The agreement, adopted pursuant to unprotested notices to the carriers and promulgated in IATA memorandum JT12/Rates 3219 names an additional specific commodity rate as follows:

ITEM 0345—SALMON AND/OR STURGEON

Rate: 81 cents per kilogram, minimum weight 45 kilograms from Bucharest to New York

The Board, acting pursuant to sections 102, 204(a), and 412 of the Act, does not find the subject agreement to be adverse to the public interest or in violation of the Act, provided that approval thereof is conditioned as hereinafter ordered.

Accordingly, it is ordered:

That Agreement C.A.B. 17868, R–14, is approved, provided that such approval shall not constitute approval of the specific commodity description contained therein for purposes of tariff publication.

Any air carrier party to the agreement, or any interested person, may, within 15 days from the date of service of this order, submit statements in writing containing reasons deemed appropriate, together with supporting data, in support of or in opposition to the Board's action herein. An original and nineteen copies of the statements should be filed with the Board's Docket Section. The Board may, upon consideration of any such statements filed, modify or rescind its action herein by subsequent order.

This order will be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board.

[SEAL] HAROLD R. SANDERSON,
Secretary.

[F.R. Doc. 64–11705; Filed, Nov. 16, 1964; 8:50 a.m.]

[Docket No. 15417]

SERVICIO AEREO DE HONDURAS, S.A.

Permit Application; Notice of Hearing

Notice is hereby given, pursuant to the provisions of the Federal Aviation Act of 1958, as amended, that a hearing in the above-entitled proceeding will be held on November 25, 1964, at 10 a.m., e.s.t., in Room 925, Universal Building, Connecticut and Florida Avenues NW., Washington, D.C., before the undersigned.

For information concerning the issues involved and other details in this proceeding, interested persons are referred to the prehearing conference report served on August 19, 1964, and other documents which are in the docket of this proceeding on file in the Docket Section of the Civil Aeronautics Board.

[1] Agreements CAB 16874 and 16874–A1, approved by Order E–20741. The Plan is presently operative in the State of Illinois, and implementation in the remaining 12 states in the first bank area is scheduled for December 1, 1964.

[2] The basic Plan approved by the Board contains provisions for agents' use of carrier ticket stock in international transportation in appropriate special circumstances.

[3] As indicated in Order E–21369, to the extent that establishment of appropriate procedures for participation in the Plan by IATA carriers involves any further intercarrier agreement subject to section 412 of the Act, it should, of course, be filed pursuant to said section.

Dated at Washington, D.C., November 12, 1964.

[SEAL] BARRON FREDRICKS,
Hearing Examiner.

[F.R. Doc. 64–11706; Filed, Nov. 16, 1964; 8:50 a.m.]

FEDERAL AVIATION AGENCY

[OE Docket No. 64–SO–10]

ANTILLES BROADCASTING CORP.

Determination of Hazard to Air Navigation

The Federal Aviation Agency has circularized the following proposal for aeronautical comment and has conducted a study (SO–OE–3621) to determine its effect upon the safe and efficient utilization of the navigable airspace.

Antilles Broadcasting Corporation proposes to increase by 77 feet the height of a television antenna structure near Guaynabo, Puerto Rico, at latitude 18°-22'42" N., longitude 66°07'04" W. The overall height of the structure would be increased from 549 feet to 626 feet above mean sea level (123 feet to 200 feet above ground).

The proposed structure would be located approximately 5.6 miles south/southwest of the Isla Grande Airport and approximately 8.9 miles west/southwest of the Puerto Rico International Airport. The proposed structure would exceed § 77.25(c)(1), Federal Aviation Regulations, as applied to the Isla Grande Airport by approximately 115 feet and as applied to Puerto Rico International Airport by approximately 117 feet.

The aeronautical study disclosed that the proposed structure would have the following effects on aeronautical operations, procedures, and minimum flight altitudes:

1. An increase from 1,500 feet to 1,600 feet in the minimum procedure turn altitude for Instrument Approach Procedures (IAP) AL–784–VOR–RWY–7.

2. Cancellation of the authorized straight-in approach minimums for IAP AL–784–VOR–RWY–7.

3. An increase from 900 feet to 1,000 feet on the minimum altitude at the Antenna Intersection for IAP AL–784–VOR–RWY–7.

4. An increase from 900 feet to 1,000 feet in the minimums for IAP AL–784–VOR–RWY–7 for aircraft that are unable to identify the Antenna Intersection.

5. An increase from 1,500 feet to 1,600 feet in the minimum radar vector altitude within three miles of the proposed structure.

The aeronautical study, disclosed that the proposed structure would have no effect on a proposed ILS system and new runway at the Puerto Rico International Airport.

The aeronautical study disclosed that the proposed structure would be located in proximity to routes generally used by Visual Flight Rule (VFR) operations arriving from and departing to the west and southwest of San Juan. Further, the proposed structure would be located near two radio antenna structures, congested areas, and rising terrain in excess of 900 feet above mean sea level within a few miles to the south. The study further disclosed that VFR operations in the vicinity of the proposed structure would not normally operate at an altitude which would be in proximity to the height of the proposed structure.

The aeronautical study disclosed that standard radar vector procedures provide for vectoring of aircraft to a final approach position to Runway 7 of Puerto Rico International Airport. The study disclosed that a substantial number of aircraft are radar vectored to a final approach position to Runway 7 which is in use approximately 98 percent of the time due to prevailing winds. During CY 1963, Puerto Rico International Airport reported the following activity: total operations 113,929; instrument operations 39,317; and instrument approaches 743.

Based upon the aeronautical study, it is the finding of the Agency that the proposed structure would have a substantial adverse effect upon Instrument Flight Rule operations.

Therefore, pursuant to the authority delegated to me by the Administrator (§ 77.37 [New]), it is found that the proposed structure would have a substantial adverse effect upon the safe and efficient utilization of navigable airspace; and it is hereby determined that the proposed structure would be a hazard to air navigation.

This determination is effective and will become final 30 days after the date of issuance unless an appeal is filed under § 77.39 [New] (27 F.R. 10352). If the appeal is denied, the determination will then become final as of the date of the denial or 30 days after the issuance of the determination, whichever is later.

Issued in Washington, D.C., on November 4, 1964.

JOSEPH VIVARI,
Acting Chief,
Obstruction Evaluation Branch.

[F.R. Doc. 64–11659; Filed, Nov. 16, 1964; 8:46 a.m.]

[OE Docket No. 64–SO–23]

PHILLIPS PETROLEUM CO.

Determination of No Hazard to Air Navigation

The Federal Aviation Agency has circularized the following proposal for aeronautical comment and has conducted a study (SO–OE–5014) to determine its effect upon the safe and efficient utilization of the navigable airspace.

Phillips Petroleum Company, Bartlesville, Oklahoma, proposes to construct an addition to its Pier 66 Motor Hotel in Fort Lauderdale, Fla., at latitude 26°06'-04" N., longitude 80°06'52" W. The overall height of the structure would be 261.5 feet above mean sea level (253 feet above ground).

The motor hotel is located approximately 3 miles northeast of the Fort Lauderdale-Hollywood International Airport and within the boundaries of the airport control zone and VOR Federal airway No. 3. The proposed construction would exceed the conical surface, as defined in § 77.25(b)(1) of the Federal Aviation Regulations as applied to the airport by 29.5 feet. It would, also, exceed the standards for determining hazards to air navigation in § 77.23(a)(2) of the Federal Aviation Regulations by 53 feet since it would be more than 200 feet above ground within the boundary of the control zone and airway.

The study disclosed that the motor hotel is located in the congested area of the city of Fort Lauderdale where there are existing structures of equal and greater heights than that proposed. Therefore, at this location, the proposed construction would have no greater effect upon aeronautical operations than the existing structures.

Based upon the aeronautical study, it is the finding of the Agency that the proposed structure would have no substantial adverse effect upon aeronautical operations, procedures or minimum flight altitudes.

Therefore, pursuant to the authority delegated to me by the Administrator (§ 77.37 [New]), it is found that the proposed structure would have no substantial adverse effect upon the safe and efficient utilization of navigable airspace and it is hereby determined that the proposed structure would not be a hazard to air navigation provided that it is obstruction marked and lighted in accordance with Agency standards.

This determination is effective and will become final 30 days after the date of issuance unless an appeal is filed under § 77.39 [New] (27 F.R. 10352). If the appeal is denied, the determination will then become final as of the date of the denial or 30 days after the issuance of the determination, whichever is later. Unless otherwise revised or terminated, a final determination hereunder will expire 18 months after its effective date or upon earlier abandonment of the construction proposal (§ 77.41 [New]).

Issued in Washington, D.C., on November 4, 1964.

JOSEPH VIVARI,
Acting Chief,
Obstruction Evaluation Branch.

[F.R. Doc. 64–11660; Filed, Nov. 16, 1964; 8:46 a.m.]

[OE Docket No. 64–SO–20]

UNIVERSITY OF GEORGIA

Determination of No Hazard to Air Navigation

The Federal Aviation Agency has circularized the following proposal for aeronautical comment and has conducted an aeronautical study (SO–OE–4766) to determine its effect upon the safe and efficient utilization of the navigable airspace.

The University of Georgia, Athens, Georgia, proposes to construct a television antenna structure at latitude 33°-48'21" N., longitude 84°08'46" W., in the vicinity of Stone Mountain, Ga. The overall height of the structure would be 2049 feet above mean sea level (366 feet above ground).

The structure would be located approximately 1.6 miles west-southwest of the Stone Mountain Airport.

The structure would exceed the standards for determining hazards to air navigation as defined in § 77.25(b)(2) of the Federal Aviation Regulations by its entire height as applied to the airport since the terrain at the site already exceeds the criteria by approximately 530 feet.

Although there is a high volume of air traffic in the Atlanta, Georgia, area, pilots operating under instrument flight rules (IFR) conditions would not be affected due to the airway configuration and minimum en route altitudes in effect in the area of Stone Mountain. Pilots traversing this area under visual flight rules (VFR) conditions and particularly those operating out of the nearby Stone Mountain Airport would be cognizant of the mountain and, therefore, circumnavigate it. Pilots would also avoid this area during periods of marginal weather and reduced visibility due to the mountain's prominence and massiveness.

Based upon the aeronautical study, it is the finding of the Agency that the proposed structure would have no substantial adverse effect upon aeronautical operations, procedures, or minimum flight altitudes.

Therefore, pursuant to the authority delegated to me by the Administrator (§ 77.37 [New]), it is found that the proposed structure would have no substantial adverse effect upon the safe and efficient utilization of navigable airspace and it is hereby determined that the proposed structure would not be a hazard to air navigation provided that it is obstruction marked and lighted in accordance with Agency standards.

This determination is effective and will become final 30 days after the date of issuance unless an appeal is filed under § 77.39 [New] (27 F.R. 10352). If the appeal is denied, the determination will then become final as of the date of the denial or 30 days after the issuance of the determination, whichever is later. Unless otherwise revised or terminated, a final determination hereunder will expire 18 months after its effective date or upon earlier abandonment of the construction proposal (§ 77.41 [New]).

Issued in Washington, D.C., on November 4, 1964.

JOSEPH VIVARI,
Acting Chief,
Obstruction Evaluation Branch.

[F.R. Doc. 64–11661; Filed, Nov. 16, 1964; 8:46 a.m.]

[OE Docket No. 64–SO–15]

WSTE–TV, INC.

Determination of No Hazard to Air Navigation

The Federal Aviation Agency (FAA) has circularized the following proposal for aeronautical comment and has conducted a study (SO–OE–4191) to determine its effect upon the safe and efficient utilization of navigable airspace.

WSTE–TV, Inc., Muskogee, Okla., proposes to construct a television antenna structure near Fajardo, Puerto Rico, at latitude 18°16'31" N., longitude 65°45'-42" W. The overall height of the structure would be 3,875 feet above mean sea level (595 feet above the ground).

The study, conducted under Part 77 of the Federal Aviation Regulations, disclosed that the physical structure would have no adverse effect upon aeronautical operations.

Therefore, pursuant to the authority delegated to me by the Administrator (§ 77.37 [New]), it is found that this structure would have no substantial adverse effect upon the safe and efficient utilization of navigable airspace and it is hereby determined that it would not be a hazard to air navigation provided that, if constructed, it is marked and lighted in accordance with Agency standards.

Conversely, however, the FAA and the Department of the Navy made a combined technical study concerning the electronic effect this installation would have upon the joint-use radar and communication facilities at this site. The proposed structure would be located 1850 feet from the radar installation and 2270 feet from the communications equipment. In summary, the technical study disclosed that the transmissions from the television antenna would adversely affect aeronautical activities by derogating the performance of the radar installation which is jointly operated by the FAA and the Department of the Navy for air traffic control purposes. The television transmissions would also derogate the functioning of the remote transmitter/receiver installation, thus interfering with the capability of instant communications with controlled aircraft and jeopardizing the safety of those engaged in air travel in this area. In recognition of the finding in this report, the FAA has gone on record to the Federal Communications Commission as being opposed to the issuance of a license for this station to operate from the proposed structure.

This determination is effective and will become final 30 days after the date of issuance unless an appeal is filed under § 77.39 [New] (27 F.R. 10352). If the appeal is denied, the determination will then become final as of the date of the denial or 30 days after the issuance of the determination, whichever is later. Unless otherwise revised or terminated, a final determination hereunder will expire 18 months after its effective date or upon earlier abandonment of the construction proposal (§ 77.41 [New]).

Issued in Washington, D.C., on November 4, 1964.

JOSEPH VIVARI,
Acting Chief,
Obstruction Evaluation Branch.

[F.R. Doc. 64–11662; Filed, Nov. 16, 1964; 8:46 a.m.]

FEDERAL MARITIME COMMISSION

CITY OF MILWAUKEE AND HANSEN SEAWAY SERVICE, LTD.

Notice of Agreements Filed for Approval

Notice is hereby given that the following agreements have been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement(s) at the Washington office of the Federal Maritime Commission, 1321 H Street NW., Room 301; or may inspect agreements at the offices of the District Managers, New York, N.Y., New Orleans, La., and San Francisco, Calif. Comments with reference to an agreement including a request for hearing, if desired, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C., 20573, within 20 days after publication of this notice in the FEDERAL REGISTER. A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter), and the comments should indicate that this has been done.

Notice of agreement filed for approval by:

Board of Harbor Commissioners, City Hall, Milwaukee 2, Wis.

Agreement No. T–576, between the City of Milwaukee (City) and Hansen Seaway Service, Ltd. (Hansen), provides for Hansen's 5-year lease of municipal general cargo terminal No. 2, to be operated as a public marine terminal, at a guaranteed minimum annual rental. As additional rental Company agrees to pay certain percentages of all storage income, plus a set rate per ton for wharfage on all cargo moving across the facility. An additional sum will be assessed Hansen annually for supplemental berthing of vessels at a certain area beyond the leased premises.

Hansen will provide reasonable and efficient stevedoring service for the accommodation of shippers, vessels, or cargo assigned to use the leased premises. Hansen also agrees to render maximum service to the commerce of the Port under reasonable regulations and conditions, and at reasonable fees and charges.

City will allow Hansen to use the dock apron on the terminal; this use is governed by City's rules and regulations. City retains control, management, and operation of the open dock area on a certain portion of the leased premises.

Hansen shall apply to the City for use of open storage areas, and agrees to assess rates and charges as specified in the Port's tariff, or as agreed upon by the City and Hansen.

By order of the Federal Maritime Commission.

THOMAS LISI,
Secretary.

[F.R. Doc. 64–11686; Filed, Nov. 16, 1964; 8:48 a.m.]

CITY OF MILWAUKEE AND P & V ATLAS TERMINAL CORP.

Notice of Agreements Filed for Approval

Notice is hereby given that the following agreements have been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as

amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement(s) at the Washington office of the Federal Maritime Commission, 1321 H Street NW., Room 301; or may inspect agreements at the offices of the District Managers, New York, N.Y., New Orleans, La., and San Francisco, Calif. Comments with reference to an agreement including a request for hearing, if desired, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C., 20573, within 20 days after publication of this notice in the FEDERAL REGISTER. A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter), and the comments should indicate that this has been done.

Notice of agreement filed for approval by:

Board of Harbor Commissioners, City Hall, Milwaukee 2, Wis.

Agreement No. T–577, between the City of Milwaukee (City) and the P & V Atlas Terminal Corporation (Company), provides for the exclusive lease of certain piers, sheds, and other terminal property at Milwaukee. Annual rental is a flat sum plus a certain percentage of storage income, and a set rate per gross ton for wharfage. Company also agrees to pay a flat sum daily for preferential berthing rights.

Company will provide reasonable and efficient stevedoring service for the accommodation of shippers, vessels, or cargo assigned to use the leased premises. Hansen also agrees to render maximum service to the commerce of the Port under reasonable regulations and conditions, and at reasonable fees and charges.

City will allow Company to use the dock apron on the terminal; this use is governed by City's rules and regulations. City retains control, management, and operation of the open dock area on a certain portion of the leased premises.

Company will apply to the City for use of open storage areas, and agrees to assess rates and charges as specified in the Port's tariff, or as agreed upon by the City and Company.

By order of the Federal Maritime Commission.

THOMAS LISI,
Secretary.

[F.R. Doc. 64–11687; Filed, Nov. 16, 1964; 8:48 a.m.]

FEDERAL POWER COMMISSION

[Docket No. CP64–308 etc.]

MIDWESTERN GAS TRANSMISSION CO. ET AL.

Order Permitting Intervention Consolidating Proceedings and Setting Hearing Date

NOVEMBER 9, 1964.

Midwestern Gas Transmission Company, Docket No. CP64–308, G–18314, G–18315, Milwaukee Gas Light Company, Docket No. CP64–174, North Star Natural Gas Company of Wisconsin, Inc., Docket No. CP65–9, Great Plains Natural Gas Co., Docket No. CP65–13.

CP64–308: On June 24, 1964, Midwestern Gas Transmission Company, 231 South La Salle Street, Chicago, filed an application under section 7(c) of the Natural Gas Act for a certificate of public convenience and necessity authorizing Midwestern to increase total peak day firm sales of natural gas to 5 present customers on its Northern System. The increases would be made in 4 annual increments beginning November 1, 1964, and would reach a total of 4,420 Mcf (@ 14.73 psia) on November 1, 1967. The customers who would receive incremental peak day volumes and the total of such volumes to be received by each customer commencing November 1, 1967, are as follows:

Customer:	*Total incremental peak day volumes November 1, 1967 (Mcf @ 14.73 psia)*
American Gas Co. of Wisconsin, Inc.	2,000
North Central Public Service Co.	225
North Star Natural Gas Co.	780
Northern States Power Co.	1,340
Perham, Minn. (village of)	75
Total	4,420

No additional facilities will be needed to render the increased service and the additional volumes of gas will be sold under the terms of Midwestern's presently effective FPC Gas Tariff.

G–18314: Midwestern Gas Transmission Company filed on June 24, 1964, under section 3 of the Natural Gas Act an application for amendment of the authorization granted to it by the Commission's order issued October 31, 1959, under docket No. G–18314 (22 FPC 775), to import from Canada into the United States up to 204,000 Mcf per day of natural gas which it would purchase from Trans-Canada Pipe Lines Limited, and would be transported over facilities authorized October 31, 1959, under docket No. G–18313 (22 FPC 775).

Midwestern requests that said authorization to import gas be amended to authorize it to import peak day volumes up to 222,360 Mcf of natural gas (@ 14.73 psia) to be purchased from Trans-Canada beginning November 1, 1967, with intermediate increases in peak day volumes on November 1 of 1964, 1965 and 1966. The annual volumes of natural gas to be imported will not be increased.

G–18315: Midwestern Gas Transmission Company filed on June 24, 1964, pursuant to Executive Order No. 10485 and §§ 153.10 and 153.11 of the Commission's regulations under the Natural Gas Act, an application for amendment of the presidential permit issued to it on October 31, 1959, under docket No. G–18315 (22 FPC 775) authorizing the construction, operation, maintenance and connection at the international boundary of facilities necessary for the importation from Canada of natural gas purchased from Trans-Canada Pipe Lines Limited. Midwestern requests that said presidential permit be amended to permit Midwestern to operate and maintain its existing facilities at the international boundary near Emerson, Manitoba, so as to import up to 222,360 Mcf (@ 14.73 psia) of natural gas per day in accordance with Midwestern's application under docket No. CP64–308 for authorization to make additional firm peak-day sales to existing customers.

CP64–174: On February 3, 1964, Milwaukee Gas Light Company (Milwaukee), 626 East Wisconsin Avenue, Milwaukee, filed an application (amended August 4, 1964) pursuant to section 7(a) of the Natural Gas Act for an order directing Midwestern Gas Transmission Company to establish physical connection of its transportation facilities with the facilities which Milwaukee proposes to construct, and to sell and deliver to Milwaukee natural gas for resale and distribution in the Cities of Neillsville, Greenwood, and Loyal in Clark County, Wisconsin and environs.

Milwaukee seeks a third year peak day volume of 1,385 Mcf and a third year annual volume of 412,850 Mcf, Milwaukee proposes to construct and operate a transmission line connecting Midwestern's main transmission line with the distribution systems which Milwaukee proposes to construct and operate in Neillsville, Greenwood, and Loyal. The total estimated cost of the proposed facilities is $830,513. Milwaukee expects that Midwestern will construct and operate sales and metering facilities at the proposed point of interconnection.

Milwaukee alleges that it has received franchises from each of the communities it proposes to serve.

CP65–9: On July 8, 1964, North Star Natural Gas Company of Wisconsin, Inc. (North Star), 123 East Elm Street, River Falls, Wisconsin, filed an application under section 7(a) of the Natural Gas Act for an order directing Midwestern Gas Transmission Company to establish connection of its transportation facilities with the facilities of North Star's proposed natural gas branch line and distribution system, and to sell and deliver to North Star natural gas for resale and distribution in Boyceville and Colfax, Wisconsin, and areas contiguous to the corporate limits of Colfax, and to provide mainline taps, side valves and meter stations at locations mutually agreeable to Midwestern and North Star. North Star estimates that it will need a third year peak day volume of 604 Mcf of gas and a third year annual volume of 286,250 Mcf.

CP65–13: Great Plains Natural Gas Co. (Great Plains), 3555 Farnam Street, Omaha 31, Nebraska, filed on July 13, 1964, under sections 7(a) and 7(c) of the Natural Gas Act an application: (1) For an order directing Midwestern Gas Transmission Company to establish connection of its transmission facilities with the pipeline and distribution facilities which Great Plains proposes to construct, and to sell and deliver to Great Plains natural gas for resale and distribution in Fergus Falls, Breckenridge and Pelican Rapids, Minnesota, and Wahpeton, North Dakota and environs; and (2) for a certificate of public convenience and necessity authorizing the construction and operation by Great Plains of approximately 63 miles of pipeline of 3-inch, 6-inch and 8-inch diameters.

Great Plains estimates that it will need a 3d year maximum day volume of 5,472 Mcf (@ 14.73 psia) of gas and a third year annual volume of 1,384,263 Mcf for the proposed operation.

Great Plains alleges that it presently holds franchises to distribute gas in each of said communities.

The applications in the above-entitled cases are on file with the Commission and are open to public inspection. Notice of the applications under Docket Nos. CP64–308, G–18314, G–18315 was issued July 20, 1964 (29 F.R. 10409), and petitions to intervene in those cases were filed by:

Minn-Dak Fuel Association, Bryce Rea, Jr., Attorney, 917 Munsey Building, Washington, D.C., 20004.

Great Plains Natural Gas Co., 3555 Farnam Street, Omaha 31, Nebr.

Northern States Power Co. (Minnesota) and Northern States Power Co. (Wisconsin) (jointly), 15 South Fifth Street, Minneapolis, Minn., 55402.

The Commission finds:

(1) It is desirable to allow the petitioners named above to intervene in these proceedings in order that they may establish the facts and law from which the nature and validity of their alleged rights and interests may be determined and show what further action may be appropriate under the circumstances in the administration of the Natural Gas Act.

(2) The applications in the above-entitled cases involve related issues and the proceedings thereon should be consolidated for hearing.

The Commission orders:

(A) The petitioners named above are hereby permitted to intervene in these proceedings subject to the rules and regulations of the Commission: *Provided,* However, that their participation shall be limited to matters affecting rights and interests expressly asserted in their petitions to intervene: *And provided further,* That permission to intervene shall not be construed as recognition by the Commission that any intervener might be aggrieved by any order entered in these proceedings.

(B) The proceedings in the above-entitled cases are hereby consolidated for hearing.

(C) A public hearing on the issues presented by the applications in the above-entitled cases will be held in a hearing room of the Federal Power Commission, 441 G Street NW., Washington, D.C., commencing at 10:00 a.m., on December 15, 1964.

(D) Notices of intervention, petitions to intervene and protests under docket Nos. CP64–174, CP65–9, and CP65–13 may be filed with the Federal Power Commission, Washington, D.C., 20426, in accordance with the Commission's rules of practice and procedure (18 CFR 1.8, 1.10), on or before December 1, 1964.

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F.R. Doc. 64–11665; Filed, Nov. 16, 1964; 8:46 a.m.]

[Docket No. CP65–83]

MISSOURI NATURAL GAS CO.

Notice of Application

NOVEMBER 9, 1964.

Take notice that on September 25, 1964, Missouri Natural Gas Company (Applicant) a public utility company with its place of business at Farmington, Missouri, filed in Docket No. CP65–83 an application pursuant to section 7(a) of the Natural Gas Act for an order directing Mississippi River Transmission Corporation to sell and deliver to it on a peak day and annual basis volumes of natural gas up to 189 Mcf per day and 22,315 Mcf per year for resale and distribution in the City of Annapolis, Iron County, Missouri and its environs.

Applicant proposes to construct pipeline facilities consisting of a distribution system in the City of Annapolis, Missouri and to interconnect it at the southern edge of the city onto the "Ruberoid" line of the Mississippi River Transmission Corporation system. The estimated cost of Applicant's proposed facilities is $51,100, which will be financed from current funds.

Applicant states that it has been duly authorized by the Public Service Commission of the State of Missouri and the City of Annapolis, Missouri to construct and operate the proposed facilities for the purpose of supplying the inhabitants of that city and its environs with natural gas.

On October 8, 1964, Mississippi River Transmission Corporation filed an answer to the application wherein it states that it has no objection to the request by Applicant to serve the gas requirements.

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that preliminary staff analysis has indicated that there are no problems which would warrant a recommendation that the Commission designate this application for formal hearing before an examiner and that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing may be held without further notice before the Commission on this application provided no protest or petition to intervene is filed within the time required herein. Where a protest or petition for leave to intervene is timely filed, or where the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington, D.C., 20426, in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before November 30, 1964.

JOSEPH H. GUTRIDE, *Secretary.*

[F.R. Doc. 64–11666; Filed, Nov. 16, 1964; 8:46 a.m.]

[Docket No. CP64–255 (Phase II) etc.]

NORTHERN NATURAL GAS CO. ET AL.

Order Consolidating Proceedings, Granting Motion for Prompt Hearing, Fixing Procedures and Date of Hearing and Notice of Applications

NOVEMBER 9, 1964.

Northern Natural Gas Company, Docket No. CP64–255 (Phase II), Michigan Consolidated Gas Company, Docket No. CP65–38, Michigan-Wisconsin Pipe Line Company, Docket No. CP65–39.

On April 28, 1964, Northern Natural Gas Company (Northern) a Delaware corporation having its principal office at Omaha, Nebraska, filed an application for a certificate of public convenience and necessity, pursuant to section 7(c) of the Natural Gas Act (Act), authorizing the construction and operation of pipeline facilities and sales of natural gas for resale in the Mesabi Iron Range area of Minnesota and the Upper Peninsula area of Michigan, all as more fully described in the application, as supplemented, which is on file with the Commission and open to public inspection. By its supplement filed on June 29, 1964, Northern elected to separate the project into two parts,[1] Phase I—The Mesabi Iron Range Project, and Phase II—the Upper Peninsula Project, which includes northern Wisconsin. The instant order deals only with Phase II. The Phase I Project has been noticed separately.

On August 10, 1964, Michigan Consolidated Gas Company (Mich-Con) a Michigan Corporation having its principal place of business at Detroit, Michigan, filed an application under section 7(a) of the Act requesting that the Commission order Michigan-Wisconsin Pipe Line Company (Mich-Wis), an affiliate of Mich-Con, to provide a supply of natural gas for resale by Mich-Con in the Upper Peninsula of Michigan. On the same day, Mich-Wis, a Delaware Corporation, having its principal place of business at Detroit, Michigan, filed an application for a certificate of public convenience and necessity authorizing the construction and operation of facilities and sale of gas requested by its affiliate.[2]

Facilities. Northern proposes: (1) To construct and operate some 86.5 miles of 30 inch main-line looping of its existing main transmission system in the States of Kansas and Nebraska; (2) to add some 15,400 compressor horsepower at existing main-line stations in Minnesota,

[1] The application was further supplemented on Sept. 1 and 24, 1964, and Oct. 28, 1964.

[2] Supplements were filed by Mich-Con on Sept. 14 and Oct. 8, 1964, and by Mich-Wis on Sept. 15, 1964.

Iowa, and Kansas; (3) to extend its main line some 270 miles from a point near Duluth, Minnesota, east across northern Wisconsin and into the Upper Peninsula of Michigan; and (4) to construct and operate some 224 miles of branch lines and metering facilities in the Upper Peninsula. The total estimated cost of the project of $35,715,500 is proposed to be financed by the sale of sinking fund debentures and cash on hand.

Mich-Wis proposes to construct and operate approximately 5.0 miles of 12-inch diameter pipeline extending its main line from Marinette, Wisconsin, to Menominee, Michigan, and to add some 5,000 compressor horsepower in the State of Wisconsin. Mich-Wis proposes no additional financing with respect to the $1,682,000 proposed construction.

Mich-Con proposes to construct and operate some 144 miles of transmission lines extending from the Mich-Wis delivery point at Menominee to proposed market areas in Iron, Dickerson, Delta, and Menominee Counties, Michigan. Mich-Con also proposes to build distribution systems in the area totaling some 278 miles of various diameter distribution mains. The estimated cost of the facilities proposed by Mich-Con is $14,127,000.

Markets. Northern proposes to sell the following third year contract demand volumes to the various customers in northern Wisconsin and the Upper Peninsula of Michigan:

	Mcf
Michigan Gas and Electric Co	18,045
Peninsular Gas Co	2,176
Wisconsin-Michigan Power Co	730
City of Escanaba, Mich	1,850
Lake Superior District Power Co	7,079
Cleveland Cliffs Iron Co	35,000
M. A. Hanna Co	5,000
Total firm	69,880

Mich-Con proposes to purchase all its Upper Peninsula requirements from Mich-Wis. Mich-Con then proposes to sell this gas at retail in the following locations. The estimated third year peak-day requirements are as follows:

	Mcf
City of Escanaba	7,191
City of Gladstone	2,578
Escanaba Suburban	2,314
Iron Mountain	10,140
Iron River	6,430
Stephenson Area	1,687
Total firm	30,340

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City of Escanaba	1,326
Iron Mountain (including M. A. Hanna)	7,608
Iron River	163
Stephenson Area	500
Total	39,937

The proposal of Northern and those of Mich-Wis and Mich-Con are partially competitive since 10 of the 26 Michigan communities and 1 of the 7 direct industrials plants proposed to be served by Northern are also proposed to be served by Mich-Con. A similar comparison of Mich-Con's project indicates that Northern proposes to sell gas to distributors for resale in 23 of the 36 cities, villages or townships and 1 iron ore plant which Mich-Con proposes to sell gas at retail.

On October 13, 1964, Mich-Con and Mich-Wis filed a joint motion for a prompt hearing. That motion is granted as hereinafter ordered. This order shall constitute notice of the filing of the applications which are open to public inspection in the Commission's offices.

The above-discussed matters are interrelated and should be heard on a consolidated record and disposed of as promptly as possible under the applicable rules and regulations and to that end:

The Commission orders:

(A) The joint motion for prompt hearing filed by Mich-Con and Mich-Wis on October 13, 1964, is hereby granted.

(B) Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act and the Commission's rules of practice and procedure, a hearing will be held before a duly authorized hearing examiner on January 26, 1965, at 10:00 a.m. (e.s.t.) in a hearing room of the Federal Power Commission, 441 G Street NW., Washington, D.C., concerning the matters involved in and the issues presented by the above-described applications as supplemented and amended.

(C) Protests and Petitions to intervene may be filed with the Federal Power Commission, Washington, D.C., 20426, in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before December 4, 1964.

(D) Applicants and all interveners filing in support of any of the foregoing applications will serve the direct presentations, to be relied upon at the hearing, by December 18, 1964, upon the Commission's staff, all other applicants, and all petitioners who have filed petitions to intervene as of December 4, 1964, unless the Commission, by the time set for service of such testimony and exhibits, has issued an order denying intervention to any of the petitioners.

(E) Following all preliminary matters to come before the presiding examiner on the above-designated hearing date witnesses will be presented to adopt their respective testimony, previously served, whereupon cross-examination will commence immediately. The presiding examiner, at a time deemed appropriate and in consideration of the magnitude of the respective presentations and the record that will have been made thereon, will, at his discretion, set a date for the filing of any answering evidence. In all other matters the presiding examiner's right to prescribe the manner in which the proceeding is to be conducted is preserved.

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F.R. Doc. 64-11667; Filed, Nov. 16, 1964; 8:46 a.m.]

[Docket No. CP64-107]

TEXAS GAS TRANSMISSION CORP.

Notice of Application To Amend

NOVEMBER 9, 1964.

Take notice that on September 30, 1964, Texas Gas Transmission Corporation (Applicant), 3800 Frederica Street, Owensboro, Kentucky, filed in Docket No. CP64-107 an application to amend further the order of the Commission issued May 26, 1964, which order among other things granted Applicant a certificate of public convenience and necessity authorizing the construction and operation of certain facilities in order to increase contract demand service to then existing customers. In the instant application, Applicant seeks to construct and operate certain natural gas transmission facilities in Knox County, Indiana, all as more fully set forth in the application on file with the Commission and open to public inspection.

Specifically, Applicant seeks authority to construct and operate two side valves and meters for the establishment of two new delivery points for Hoosier Gas Corporation (Hoosier), an existing customer of Applicant. Natural gas to be delivered through these delivery points is for resale by Hoosier to the incorporated community of Edwardsport, Indiana and the rural area of Freelandville, Indiana. Annual deliveries are estimated to be 22,239 Mcf and 30,435 Mcf respectively. No increase in the contract demand of Hoosier is proposed for this service.

The cost of the facilities is estimated to be $7,770 and will be financed with current funds.

Protests, petitions to intervene or requests for hearing in this proceeding may be filed with the Federal Power Commission, Washington, D.C., 20426, in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before November 30, 1964.

JOSEPH H. GUTRIDE, *Secretary.*

[F.R. Doc. 64-11668; Filed, Nov. 16, 1964; 8:46 a.m.]

SECURITIES AND EXCHANGE COMMISSION

[File No. 812-1724]

UNITED INTERNATIONAL FUND LTD. AND UNITED FUNDS CANADA LTD.

Notice of Filing of Application for Order Exempting Transactions Between Affiliated Persons

NOVEMBER 10, 1964.

Notice is hereby given that United International Fund Ltd. ("International Fund") and United Funds Canada Ltd. ("Canada Fund"), 70 Pine Street, New York, New York, 10005, both foreign corporations and diversified management

open-end investment companies registered under the Investment Company Act of 1940 ("Act"), have filed a joint application pursuant to section 17(b) of the Act for an order of the Commission permitting International Fund to sell substantially all of its assets to Canada Fund in exchange solely for shares of Canada Fund as more fully described below. All interested persons are referred to the application on file with the Commission for a complete statement of applicants' representations therein, which are summarized below.

The proposed sale by International Fund of its assets to Canada Fund is part of a proposed reorganization of both investment companies whereby Canada Fund, after acquiring substantially all of International Fund's assets in exchange for its own shares would be known as United Funds Canada-International Ltd. ("Canada-International Fund"). International Fund will retain only sufficient assets to pay its estimated liabilities. Following the proposed reorganization substantially all of the assets of International Fund will consist of shares of Canada-International Fund, and International Fund will then distribute to its shareholders the shares of Canada-International Fund.

International Fund's total net assets have declined from $15,526,149 on July 18, 1963 to $8,942,680 on August 31, 1964. Canada Fund's total net assets have declined from $9,791,726 on July 18, 1963 to $8,269,088 on August 31, 1964. Applicants believe that the continuing decline in the total assets of the two funds is due to the proposal and passage of the Interest Equalization Tax which imposes a tax of up to 15 percent on American purchasers of foreign securities. The application states that due to the proposal and passage of the tax, both International Fund and Canada Fund have been prevented from selling their shares in the United States since July 18, 1963. There have also been attendant rises in the expense ratios of the two funds during their most recent fiscal years. The application also states that the decreasing size of International Fund and of Canada Fund and the necessity of meeting redemptions have also contributed to the difficulties of portfolio management since redemptions could be met or desirable portfolio acquisitions made only through disposition of portfolio securities. The managements of the two funds believe that the larger combined fund which would result from the proposed reorganization would be better able to meet the aforementioned difficulties more efficiently during the period the Interest Equalization Tax is in effect (it expires by its terms on December 31, 1965), as increased size would aid in reducing expense ratios and would provide a larger portfolio of securities which would afford greater latitude to management in selecting portfolio securities to be disposed of in order to meet redemption requests.

The application indicates that full and fractional shares of Canada Fund of an adjusted net asset value equal to the aggregate net asset value of all of International Fund's shares outstanding on the valuation date shall be issued in exchange for International Fund's assets. The adjustment to the per share net asset value of the two funds will be made by computing the difference in the two funds' realized and unrealized appreciation or depreciation and adjusting the basis upon which Canada Fund's shares are to be exchanged for International Fund's assets by 6½ percent of the difference in unrealized appreciation or depreciation at the valuation date and by 10 percent of the difference at such time in the funds' respective realized losses and undistributed capital gains realized since the beginning of the two funds' last fiscal years.

The valuation date shall be the close of business on December 30, 1964 or on such other date as may be mutually agreed upon. The actual exchange of International Fund's assets for shares of Canada Fund will be made on December 31, 1964 or another mutually agreeable date.

United States counsel for International Fund have advised that in their opinion the proposed reorganization will be a tax-free reorganization and no gain or loss or taxable income will be recognized to the two funds or their shareholders except that gain, if any, will be recognized, and taxed as dividend income, to the shareholders of International Fund to the extent of cash received in lieu of fractional shares. The cost of the shares of an International Fund shareholder will be carried over to the shares of Canada-International Fund which he will acquire in the reorganization, adjusted for any fractional share cash distribution to former shareholders of International Fund.

The application represents that if the proposed reorganization is consummated, shareholders of International Fund will, as shareholders of Canada-International Fund, acquire an investment in a fund which has the same investment adviser and similar investment objectives and restrictions.

The directors of each fund have recommended to the shareholders of each fund that they approve the proposed reorganization. The affirmative vote of a majority of the outstanding voting securities of each fund is required for approval of the proposed reorganization.

The boards of directors of International Fund and of Canada Fund consist of fifteen and eleven persons, respectively. Three of the directors of International Fund are also directors of Canada Fund. North American Intercontinental Advisers Ltd. serves as the investment adviser to both funds. The application represents that no person owns beneficially, either directly or indirectly, 25 percent of the voting securities of either International Fund or Canada Fund; consequently, it is applicants' view that the two funds are presumed not to be under common control. However, in view of the above-mentioned relationships, applicants have filed the present application, pursuant to section 17(b) of the Act, requesting an exemption from the provisions of section 17(a).

Section 17(a) of the Act prohibits an affiliated person of a registered investment company, or an affiliated person of such a person, from selling to or purchasing from such registered company any security or other property, subject to certain exceptions, unless the Commission upon application, pursuant to section 17(b) of the Act, grants an exemption from the provisions of section 17(a) upon a finding that the terms of the proposed transaction, including the consideration to be paid, are reasonable and fair and do not involve overreaching on the part of any person concerned, that the proposed transaction is consistent with the policy of each registered investment company concerned, as recited in its registration statement and reports filed under the Act, and is consistent with the general purposes of the Act.

Notice is further given that any interested person may, not later than November 30, 1964, at 5:30 p.m., submit to the Commission in writing a request for a hearing on the matter accompanied by a statement as to the nature of his interest, the reason for such request and the issues of fact or law proposed to be controverted, or he may request that he be notified if the Commission shall order a hearing thereon. Any such communication should be addressed: Secretary, Securities and Exchange Commission, Washington, D.C., 20549. A copy of such request shall be served personally or by mail (air mail if the person being served is located more than 500 miles from the point of mailing) upon applicant at the address stated above. Proof of such service (by affidavit or in case of an attorney-at-law certificate) shall be filed contemporaneously with the request. At any time after said date, as provided by Rule 0–5 of the rules and regulations promulgated under the Act, an order disposing of the Application herein may be issued by the Commission upon the basis of the showing contained in said application, unless an order for hearing upon said application shall be issued upon request or upon the Commission's own motion.

For the Commission (pursuant to delegated authority).

[SEAL] ORVAL L. DUBOIS, *Secretary.*

[F.R. Doc. 64–11663; Filed, Nov. 16, 1964; 8:46 a.m.]

INTERSTATE COMMERCE COMMISSION

FOURTH SECTION APPLICATIONS FOR RELIEF

NOVEMBER 12, 1964.

Protests to the granting of an application must be prepared in accordance with Rule 1.40 of the general rules of practice (49 CFR 1.40) and filed within 15 days from the date of publication of this notice in the FEDERAL REGISTER.

LONG-AND-SHORT HAUL

FSA No. 39390: *Liquefied petroleum gas to points in Colorado.* Filed by Southwestern Freight Bureau, agent (No. B–8643), for interested rail carriers.

Rates on liquefied petroleum gas, in tank carloads, from Beaver, Hough, Laverne, Mocane, and Straight, Okla., to Alamosa, Monte Vista, and Salida, Colo.

Grounds for relief: Market competition.

Tariff: Supplement 21 to Southwestern Freight Bureau, agent, tariff I.C.C. 4557.

FSA No. 39391: *Liquid caustic soda from Brunswick, Ga.* Filed by O. W. South, Jr., agent (No. A4589), for interested rail carriers. Rates on liquid caustic soda, in tank carloads, from Brunswick, Ga., to Fairfax and Lanett, Ala.

Grounds for relief: Market competition.

Tariff: Supplement 156 to Southern Freight Association, agent, tariff I.C.C. S–194.

By the Commission.

[SEAL] HAROLD D. McCOY, *Secretary.*

[F.R. Doc. 64–11676; Filed, Nov. 16, 1964; 8:47 a.m.]

[Notice 1078]

MOTOR CARRIER TRANSFER PROCEEDINGS

NOVEMBER 12, 1964.

Synopses of orders entered pursuant to section 212(b) of the Interstate Commerce Act, and rules and regulations prescribed thereunder (49 CFR Part 179), appear below:

As provided in the Commission's special rules of practice any interested person may file a petition seeking reconsideration of the following numbered proceedings within 20 days from the date of publication of this notice. Pursuant to section 17(8) of the Interstate Commerce Act, the filing of such a petition will postpone the effective date of the order in that proceeding pending its disposition. The matters relied upon by petitioners must be specified in their petitions with particularity.

No. MC–FC 67091. By order of November 9, 1964, the Transfer Board approved the transfer to Benjamin H. Ruegsegger, Kawkawlin, Mich., of the operating rights in Certificates Nos. MC 118545, MC 118545 Sub 2, and MC 118545 Sub 3, issued August 25, 1959, July 1, 1960, and June 3, 1963, respectively, to Cleo J. Carbary, doing business as Cleo J. Carbary Trucking Company, Kawkawlin, Mich., authorizing the transportation, over irregular routes, of malt beverages, soft drinks, beverage compounds, and empty containers and cases for malt beverages from and to specified points in Wisconsin, Michigan, Ohio, Illinois, and Indiana, varying with the commodities specified.

No. MC–FC 67251. By order of November 9, 1964, the Transfer Board approved the transfer to Thomas Motor Tours, Inc., Lothian, Md., of the operating rights issued by the Commission November 30, 1960, under Certificate in No. MC 108811 Sub 2, to Richard G. Thomas, Lothian, Md., authorizing the transportation, over irregular routes, of passengers and their baggage, in round trip charter operations, beginning and ending at points in Calvert County, Md., and specified parts of Anne Arundel and Prince Georges Counties, Md., to points in Delaware, New York, North Carolina, Ohio, Pennsylvania, Virginia, West Virginia, and the District of Columbia; and beginning and ending at Annapolis, Md., and points in Calvert County, Md., and extending to points in Maryland and New Jersey. S. Harrison Kahn, Suite 733 Investment Building, Washington 5, D.C., attorney for applicants.

No. MC–FC 67284. By order of November 9, 1964, the Transfer Board approved the transfer to J. K. McKeown Co. Inc., Arlington, Mass., of a portion of Certificate No. MC 109453, issued July 23, 1951, to Wood Brothers, Inc., authorizing the transportation of household goods, over irregular routes, between Boston, Mass., and points within 20 miles of Boston, on the one hand, and, on the other, points in Indiana, points in the lower peninsula of Michigan, Pennsylvania, Delaware, Maryland, Ohio, Illinois, and the District of Columbia. Robert J. Gallagher, 111 State Street, Boston, Mass., 02109, attorney for applicants.

No. MC–FC 67286. By order of November 9, 1964, the Transfer Board approved the transfer to Villaneueva Transfer Inc., 501 North Meadow, Laredo, Tex., of Certificate No. MC 108464, issued May 27, 1957, to Jose Maria Villanueva, doing business as Villanueva Transfer, 501 North Meadow, Laredo, Tex., authorizing the transportation of general commodities, including household goods and commodities in bulk, over irregular routes, between the boundary of the United States and Mexico at Laredo, Tex., on the one hand, and, on the other, Laredo, Tex.; and between the boundary of the United States and Mexico at Eagle Pass, Tex., on the one hand, and, on the other, Eagle Pass, Tex.

[SEAL] HAROLD D. McCOY, *Secretary.*

[F.R. Doc. 64–11677; Filed, Nov. 16, 1964; 8:47 a.m.]

[S.O. 947, Rev. Taylor's Car Distribution Order 17]

CHESAPEAKE AND OHIO RAILWAY CO.

Shortage of Freight Cars

Pursuant to section 1 (15) and (17) of the Interstate Commerce Act and authority vested in me by paragraph (5) (b) of Interstate Commerce Commission Service Order No. 947 (28 F.R. 12127; 29 F.R. 6014, 9670).

I find that there continues to exist a shortage of freight cars in certain areas because of inequitable distribution and, because of such emergency, notice and public procedure on this order would be impracticable and contrary to the public interest, and this order shall be made effective upon less than 30 days' notice.

Therefore, it is ordered, That:

(a) The Chesapeake and Ohio Railway Co. shall deliver to the SOO Line Railroad Co. a daily average of 25 plain serviceable boxcars inside length less than 44 feet 8 inches.

(b) Cars delivered under this order shall be carded to the SOO Line Railroad Co. and each car shall be under the provisions of this order.

(c) Effective date: This order shall become effective at 12:01 a.m., November 12, 1964.

(d) Expiration date: This order shall expire at 11:59 p.m., November 30, 1964, unless otherwise ordered.

It is further ordered, That this order shall be served upon the Association of American Railroads, Car Service Division, as Agent of all railroads subscribing to the car service and per diem agreement under the terms of that agreement and by filing it with the Director, Office of the Federal Register.

Issued at Washington, D.C., November 10, 1964.

INTERSTATE COMMERCE COMMISSION,
[SEAL] CHARLES W. TAYLOR, *Agent.*

[F.R. Doc. 64–11678; Filed, Nov. 16, 1964; 8:47 a.m.]

[S.O. 947, Taylor's Car Distribution Order 24]

MISSOURI PACIFIC RAILROAD CO.

Shortage of Freight Cars

Pursuant to section 1 (15) and (17) of the Interstate Commerce Act and authority vested in me by paragraph (5) (b) of Interstate Commerce Commission Service Order No. 947 (28 F.R. 12127, 29 F.R. 6014, 29 F.R. 9670).

I find that there exists a shortage of freight cars in certain areas because of inequitable distribution and, because of such emergency, notice and public procedure on this order would be impracticable and contrary to the public interest, and this order shall be made effective upon less than 30 days' notice.

Therefore, it is ordered, That:

(a) The Missouri Pacific Railroad Co. shall deliver to the Chicago and Eastern Illinois Railroad Co. a daily average of 25 plain serviceable boxcars inside length less than 44 feet 8 inches.

(b) Cars delivered under this order shall be carded to the Chicago and Eastern Illinois Railroad Co. and each car shall be identified by the Missouri Pacific Railroad Co. as moving under the provisions of this order.

(c) Effective date: This order shall become effective at 12:01 a.m. November 13, 1964.

(d) Expiration date: This order shall expire at 11:59 p.m. November 30, 1964, unless otherwise ordered.

It is further ordered, That this order shall be served upon the Association of American Railroads, Car Service Division, as Agent of all railroads subscribing to the car service and per diem agreement under the terms of that agreement and by filing it with the Director, Office of the Federal Register.

Issued at Washington, D.C., November 12, 1964.

INTERSTATE COMMERCE COMMISSION,
[SEAL] CHARLES W. TAYLOR, *Agent.*

[F.R. Doc. 64–11679; Filed, Nov. 16, 1964; 8:48 a.m.]

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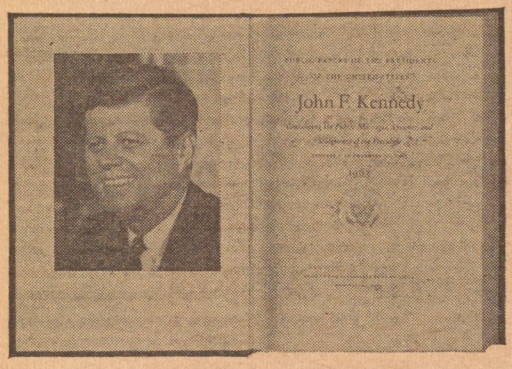

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