sylvania-Maryland State line; (21) between points in Connecticut on, south, and east of Connecticut Highway 12 beginning at the Connecticut-Massachusetts State line to junction Connecticut Highway 32, thence along Connecticut Highway 32 to junction Connecticut Highway 213, thence along Connecticut Highway 213 to Ocean Beach, Conn., on the one hand, and, on the other, points in New York on and west of a line beginning at Wallington, N.Y., and extending along New York Highway 14 to junction New York Highway 245, thence along New York Highway 245 to junction New York Highway 371, thence along New York Highway 371 to junction New York Highway 21, thence along New York Highway 21 to junction New York Highway 17, thence along New York Highway 17 to Carol, N.Y.; (B) *road-building machinery and contractors' equipment*, requiring specialized handling or rigging, because of size or weight; (7) between points in Vermont, on the one hand, and, on the other, points in Massachusetts on and east of U.S. Highway 3, beginning at the New Hampshire-Massachusetts State line, thence along U.S. Highway 3 to junction Interstate Highway 495, thence along Interstate Highway 495 to junction Interstate Highway 290, thence along Interstate Highway 290 to junction Massachusetts Highway 12, thence along Massachusetts Highway 12 to the Massachusetts-Connecticut State line; (C) *road-building contractors' materials and supplies*, when transported together with road-building contractors' machinery and equipment requiring special handling or rigging because of size or weight, restricted against the transportation of commodities in bulk, in tank vehicles; (7) between points in Vermont, on the one hand, and, on the other, points in Massachusetts on and east of U.S. Highway 3 beginning at the New Hampshire-Massachusetts State line, thence along U.S. Highway 3 to junction Interstate Highway 495, thence along Interstate Highway 495 to junction Interstate Highway 290, thence along Interstate Highway 290 to junction Massachusetts Highway 12, thence along Massachusetts Highway 12 to the Massachusetts-Connecticut State line; and

(10) Between points in New Hampshire, on the one hand, and, on the other, points in New York on, south, and west of a line beginning at the Massachusetts-New York State line at Interstate Highway 90 and extending along Interstate Highway 90 to junction New York Highway 31, thence along New York Highway 31 to Lake Ontario. The purpose of this filing is to eliminate the gateways of: Massachusetts within 50 miles of Boston, Mass., in (A) (2) and (7) above; points in Massachusetts within 35 miles of Brockton, Mass., in (11) and (12), (20) and (21) above; and points in Massachusetts within 50 miles of Boston, Mass. The purpose of this partial correction is to correct the territorial descriptions in (A) (2), (7), (11), (12), (20), (21), (B)7, and (C)7; and to include (C)(10) above, and to delete (B)(10). The remainder of this letter-notice remains as previously published.

No. MC 78842 (Sub-No. E2), filed May 16, 1974. Applicant: DALEY AND WANZER, INC., 821 Nantasket Ave., Hull, Mass. 02045. Applicant's representative: Robert J. Gallagher, 1776 Broadway, New York, N.Y. 10019. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Household goods*, as defined by the Commission, (1) between points in Florida and Alabama, on the one hand, and, on the other, points in Connecticut east of a line beginning at the Massachusetts-Connecticut State line extending along U.S. Highway 7 to junction U.S. Highway 44, thence along U.S. Highway 44 to junction Connecticut Highway 8, thence along Connecticut Highway 8 to junction Connecticut Highway 34, thence along Connecticut Highway 34 to the Long Island Sound; (2) between points in Georgia, on the one hand, and, on the other, points in Connecticut east of a line beginning at the Massachusetts-Connecticut State line extending along U.S. Highway 202 to junction Connecticut Highway 4, thence along Connecticut Highway 4 to junction Connecticut Highway 72, thence along Connecticut Highway 72 to junction Connecticut Highway 17, thence along Connecticut Highway 17 to junction Connecticut Highway 79, thence along Connecticut Highway 79 to the Long Island Sound. The purpose of this filing is to eliminate the gateway of points within 5 miles of Quincy, Mass.

No. MC 83539 (Sub-No. E158), (Correction), filed May 23, 1974, published in the FEDERAL REGISTER July 21, 1975. Applicant: C & H TRANSPORTATION, P.O. Box 5976, Dallas, Tex. 75222. Applicant's representative: Kenneth Weeks (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Heavy machinery*, which because of size or weight, require the use of special equipment, between points in New Hampshire, on the one hand, and, on the other, points in Iowa. The purpose of this filing is to eliminate the gateways of Worcester, Mass.; New York; Braddock, Pa.; and Illinois. The purpose of this correction is to correct the territorial description.

No. MC 83539 (Sub-No. E159), (Correction), filed May 23, 1974, published in the FEDERAL REGISTER July 21, 1975. Applicant: C & H TRANSPORTATION, P.O. Box 5976, Dallas, Tex. 75222. Applicant's representative: Kenneth Weeks (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Heavy machinery*, which because of size or weight, requires the use of special equipment, between points in New Hampshire, on the one hand, and, on the other, points in Kansas and Louisiana. The purpose of this filing is to eliminate the gateways of Worcester, Mass.; New York; and Braddock, Pa. The purpose of this correction is to correct the territorial description.

No. MC 83539 (Sub-No. E161), (Correction), filed May 23, 1974, published in the FEDERAL REGISTER July 21, 1975. Applicant: C & H TRANSPORTATION, P.O. Box 5976, Dallas, Tex. 75222. Applicant's representative: Kenneth Weeks (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Heavy machinery*, which because of size or weight, requires the use of special equipment, between points in New Hampshire, on the one hand, and, on the other, points in Minnesota. The purpose of this filing is to eliminate the gateways of Worcester, Mass.; New York; Braddock, Pa.; and Illinois. The purpose of this correction is to correct the territorial description.

By the Commission.

[SEAL] ROBERT L. OSWALD,
Secretary.

[FR Doc.75-25669 Filed 9-24-75;8:45 am]

federal register

THURSDAY, SEPTEMBER 25, 1975

PART II:

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

■

NOISE ABATEMENT

Proposal Submitted to FAA by EPA

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

[14 CFR Part 91]

[Docket No. 15020; Notice No. 75-35]

NOISE ABATEMENT

Regulations Submitted by EPA to FAA

SEPTEMBER 11, 1975.

Proposed regulations submitted to the FAA by the Environmental Protection Agency:

I. Reduced flap setting noise abatement approach for turbojet engine-powered airplanes.

II. Visual two-segment noise abatement approach for turbojet engine-powered airplanes.

III. Two-segment ILS noise abatement approach for turbojet engine-powered airplanes.

This notice of proposed rule making contains proposed regulations submitted by the Environmental Protection Agency (EPA) to the Federal Aviation Administration (FAA), pursuant to § 611(c)(1) of the Federal Aviation Act of 1958, as amended by the Noise Control Act of 1972 (Pub. L. 92-574). Section 611(c)(1) of the Federal Aviation Act of 1958 provides that EPA shall submit to the FAA proposed regulations to provide such control and abatement of aircraft noise and sonic boom as EPA determines is necessary to protect the public health and welfare. That section also provides that the FAA "shall consider such proposed regulations submitted by EPA under this paragraph and shall, within thirty days of its submission to the FAA, publish the proposed regulations in a notice of proposed rulemaking." This notice is published pursuant to this provision of law.

This notice of proposed rule making (NPRM) contains three separate proposals submitted by the EPA regarding noise abatement approach procedures applicable to turbojet engine-powered airplanes. For ease of reference, the proposals are identified as "EPA Proposal I," "EPA Proposal II," and "EPA Proposal III," respectively, as follows:

EPA Proposal I, entitled "Reduced Flap Setting Noise Abatement Approach for Turbojet Engine-Powered Airplanes," proposes to amend § 91.85 of the Federal Aviation Regulations (14 CFR Part 91) to "provide noise relief to communities in the vicinity of airports by prescribing reduced flap setting procedures for civil turbojet powered airplanes."

EPA Proposal II, entitled "Visual Two-Segment Noise Abatement Approach for Turbojet Engine-Powered Airplanes," proposes to amend § 91.87 of the Federal Aviation Regulations (14 CFR Part 91) to "provide noise relief to communities in the vicinity of airports by prescribing a two-segment approach under visual conditions for civil turbojet engine-powered airplanes." EPA's transmittal stated that, in EPA's opinion, the rule, if adopted, "could be made effective in the near future, applying to airports equipped with co-located ILS and Distance Measuring Equipment (DME) ground facilities, as it does not require any additional airborne equipment." As stated by the EPA in its proposal, this proposed rule would "require the use of a two-segment approach with glide angles of approximately 6 and 3 degrees for the first and second segments, respectively, for operations under specifically defined visual weather conditions only, which are more restrictive than VFR."

EPA Proposal III, entitled "Two-Segment ILS Noise Abatement Approach for Turbojet Engine-Powered Airplanes," proposes to "provide noise relief to communities in the vicinity of airports by prescribing a two-segment instrument landing system (ILS) approach for civil turbojet engine-powered airplanes." The EPA states, with respect to this proposal, that "if the two-segment ILS approach rule discussed herein is promulgated and implemented—including the necessary airborne glideslope computer installations on all affected aircraft—it would supersede the two-segment visual approach rule, since it would require use of a two-segment approach under both VFR and IFR conditions."

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 docket number and be submitted in duplicate to the Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket, AGC-24, 800 Independence Avenue SW., Washington, D.C. 20591. Comments on the overall environmental aspects of the proposed rules are specifically invited. Information on the economic impact that might result because of the adoption of the proposed rules is also requested. All communications received by the FAA on or before November 26, 1975, will be considered by the FAA Administrator before taking action upon the proposed rules. The proposals contained in this notice may be changed in the light of comments received. All comments will be available, both before and after the closing date for comments, in the FAA Rules Docket for examination by interested persons. The EPA has requested that additional information copies of public comments be sent to: Environmental Protection Agency, Office of Noise Control Programs, AW-571, 401 M Street, SW., Washington, D.C. 20460. However, to ensure consideration as part of the regulatory processes of the FAA, each comment must be submitted to the above listed FAA Rules Docket.

A separate notice of hearing, published today in the "NOTICES" section of the FEDERAL REGISTER, announces that, pursuant to § 611(c) of the Federal Aviation Act of 1958, as amended, the FAA will conduct a public hearing in Washington, D.C., on November 5, 1975, to receive oral, as well as written, comments regarding the proposals contained in this notice of proposed rule making.

The following EPA opinions, conclusions, and proposed regulatory language are published verbatim as received from EPA by the FAA on August 29, 1975. Since the three separate proposals submitted by EPA are closely related in their substance and each involves proposed regulations regarding noise abatement approach procedures applicable to turbojet engine-powered airplanes, they have been consolidated for publication and hearing. In order to present each EPA proposal exactly as submitted to the FAA, a verbatim presentation of each proposal is contained herein, notwithstanding the resulting repetition of some material. However, EPA's non-regulatory recommendations under headings entitled "Thrust Reversers" and "4 Degree Glide Angle," which were duplicated in each EPA proposal, are published herein following EPA Proposal I only.

EPA PROPOSALS AS SUBMITTED TO FAA

EPA PROPOSAL I: REDUCED FLAP SETTING NOISE ABATEMENT APPROACH FOR TURBOJET ENGINE-POWERED AIRPLANES

Under the requirements of Section 7(a) of the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234) the Administrator of the Environmental Protection Agency conducted a study of aircraft and airport noise and submitted a report thereon to the Congress. (Report on Aircraft/Airport Noise, Senate Committee on Public Works, Serial No. 93-8, Aug. 1973 Reference 1). Under Section 611 of the Federal Aviation Act, as amended by the Noise Control Act of 1972, the Administrator of the EPA is also required, not earlier than the date of submission of his report to the Congress, to submit to the Federal Aviation Administration proposed regulations to provide such control and abatement of aircraft noise and sonic boom (including control and abatement through the exercise of any of the FAA's regulatory authority over air commerce or air transportation or over aircraft or airport operations) as the Administrator of the EPA determines is necessary to protect the public health and welfare. In accordance with the foregoing requirement, the EPA published in the Federal Register on February 19, 1974, (39 F.R. 6142) a "Notice of Public Comment Period" containing a synopsis of the proposed rules it is considering to achieve a satisfactory level of aircraft noise control and abatement for the protection of the public health and welfare.

The proposed rules and the type of control which each rule would implement are as follows:

FLIGHT PROCEDURE NOISE CONTROL

(1) Takeoff procedures.
(2) Approach procedures.
(3) Minimum altitudes.

SOURCE NOISE CONTROL

(4) Retrofit/fleet noise level.
(5) Supersonic civil aircraft noise.
(6) Modifications to Part 36 of the Federal Aviation Regulations.
(7) Propeller driven small airplanes.
(8) Short haul aircraft.

AIRPORT OPERATIONS NOISE CONTROL

(9) Airport goals, mechanisms and procedures by which noise exposure of communities around airports can be limited to levels consistent with public health and welfare requirements.

This proposal is identified as the reduced flap setting procedures portion of Item (2), above.

REFERENCES

In the development of this proposed rule the EPA evaluated several pertinent studies made by Federal agencies and private persons. Those studies are listed herein for the information of all interested persons and are available for examination at the FAA Rules Docket Office, GC-24, 800 Independence Avenue SW., Washington, D.C. 20590, or Environmental Protection Agency, Office of Noise Control Programs, Crystal Mall 2, 1921 Jefferson Davis Highway, Arlington, Va. 20460.

(1) "Report on Aircraft/Airport Noise", Report of the Administrator of the Environmental Protection Agency in compliance with Public Law 92-574, Senate Committee on Public Works, Serial No. 93-8, August 1973.

(2) "Note on Effect of Thrust and Altitude on Noise in Steep Approaches", NASA, LWP-283, September 14, 1966.

(3) "Flight Investigations of Methods for Implementing Noise Abatement Landing Approaches", "Progress of NASA Research Relating to Noise Alleviation of Large Subsonic Jet Aircraft", NASA SP-189, October 8-10, 1968.

(4) "Flight and Simulation Investigation of Methods for Implementing Noise Abatement Landing Approaches", NASA TN D-5781, May, 1970.

(5) "Noise Measurement for a Three-Engine Turbo-Fan Transport Airplane During Climbout and Landing Approach Operations", NASA TN D-61337, May 1971.

(6) "Measurement and Analysis of Noise from Four Aircraft During Aproach and Departure Operations (727, KC-135, 707-320B, and DC-9)", FAA Report FAA-RD-71-84, September 1971.

(7) "Preliminary Results on Two-Segment Noise Abatement Studies", NASA TM X-62, 098, September 22, 1971.

(8) "Noise Reductions Achieved on a 720-320 B Aircraft Using a Two-Segment Approach", NASA CR-14417, December, 1971.

(9) "Flight Evaluation of Two-Segment Approaches for Jet Transport Noise Abatement", American Airlines NASA Contractor Report, prepared under Contract No. NAS 2-6501, June 1973.

(10) "Aircraft Noise Reduction Technology", Report by the National Aeronautics and Space Administration to the Environmental Protection Agency for the Aircraft/Airport Noise Study, 30 March 1973.

(11) "Initial Flight and Simulator Evaluation of Head-Up Display for Standard and Noise Abatement Visual Approaches", NASA, TM S-62, 187, February 1973.

(12) "NBAA Noise Abatement Program", National Business Aircraft Association, Report SRT 67-12, June 1967.

(13) "Effects of Aircraft Operations on Community Noise", The Boeing Company, Commercial Airline Group, June 1971.

(14) "A Comparison of Aircraft Approach Angles at Los Angeles and San Diego International Airports", City of Inglewood, California, June 1972.

(15) "Operations Analysis Including Monitoring, Enforcement, Safety, and Cost", Report of Task Group 2, EPA NTID 73.3, 27 July, 1973.

(16) "Field Evaluation of 3000 Ft. Glideslope Intercept Program", Report No. FAA AT-72-1, March 1972.

(17) "Glideslope Angles at Airports", FAA Report, December 1971.

(18) "Research and Technology for Aircraft Noise Abatement", statement by Deputy Associate Administrator, NASA, before Subcommittee on Aviation, Committee on Commerce, U.S. Senate, July 1973.

(19) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA Technical Document 550/9-74-004, March 1974.

(20) B. Bartel, L. C. Sutherland and L. Simpson, "Airport Noise Reduction Forecast", DOT Report DOT-TST-75-3, October 1974.

(21) J. E. Wesler, "Airport Noise Abatement—How Effective Can It Be?", *Sound and Vibration*, February 1975, pp. 16-21.

(22) R. H. Peterson and R. F. Burke, "Studies of Methods for Reducing Community Noise Around Airports", Nielsen Engineering and Research Inc., Report NEAR TR 73, prepared under contract no. NAS2-8190 for NASA/Ames, August 1974.

(23) "Approach and Landing Procedures for Noise Control", EPA Project Report, 1 July 1975.

REDUCED-FLAP APPROACH AND LANDING

As shown in the foregoing list of references numerous studies have been conducted to determine the noise reduction potential that can be achieved by the use of certain procedures for approaches and landings. It has been concluded from a review of these studies that an approach made with less than full landing flaps reduces aircraft noise as compared to a full flap approach, since the airframe drag with reduced settings is less and lower power is thereby required. The results of the studies show that a noise reduction of approximately 2 to 3 EPNdB can be achieved for various types of turbojet powered airplanes under a reduced flap procedure. For example, a B-727 with an approach flap setting of 30 degrees requires an average net thrust per engine (Fn) of about 4600 lb and produces an Effective Perceived Noise Level (EPNL) on the flight track 3 dB lower than the same airplane using 40 degrees flaps, requiring an Fn of about 6,600 lb. The area within the 90 EPNdB contour is approximately 4.2 square miles at 30 degrees flaps, compared to 7.5 square miles at 40 degrees flaps, a decrease of 44 percent in area. A reduction similar in magnitude is achieved in the area within the 80 EPNdB contour. For a B-737, the improvement is about a 2 dB reduction on the flight track and about a 30% reduction in the 90 EPNdB area. The benefit obtained with a B-707, using flaps at 40 degrees in lieu of 50 degrees, is somewhat lower, but still useful—about 1.5 dB reduction in EPNL in the flight track and a reduction of about 10 percent in the area within the 90 EPNdB contour.

The Airplane Flight Manual for many types of airplanes (B-707, B-727, B-737, B-747, DC-10, L-1011) shows more than one certificated flap setting for landing. Several air carriers, including United, American and Northwest Air Lines, have standardized on a flap setting for landing that is less than the maximum certificated flap setting; some use an even lower flap setting during the early approach phase. For example, one air carrier's procedures provide for using a flap setting during the approach of one notch less than the planned flap setting for landing which generally is less than the maximum certificated flap setting. The procedure provides for the flaps to be lowered to final setting at an altitude sufficient to allow the aircraft to become stabilized in the landing configuration prior to reaching an altitude of 500 feet above the runway elevation. Approximately 200 to 300 feet of altitude are required to stabilize an aircraft following a configuration, airspeed, or power change during approach.

In addition to the present use of a reduced flap approach procedure by certain air carriers, the Air Transport Association recommended continuation of the reduced flap approach across the board now in response to the invitation for comments to the two-segment ILS approach provisions proposed in ANPRM 74-12 (39 FR 11193, Mar. 26, 1974). Since the procedure is considered safe and will achieve an appreciable reduction in noise caused by civil turbojet engine-powered airplanes, it is proposed to make the use of a reduced flap procedure mandatory for all civil turbojet engine-powered airplanes.

In addition to the noise reduction benefits obtained with reduced flap approach, there is also a slight decrease in fuel consumption, owing to the lower engine thrust used in such an approach. minor negative factor is a small increase in approach speed required to obtain the necessary lift at the lower flap setting, coupled with a small increase in the time needed to increase engine thrust to maximum if the landing has to be aborted. However, the changes involved are small, and well within the limits of safe operation.

The reduced flap procedure for each type of turbojet engine-powered airplane would consist of the lowest flap setting shown in the Airplane Flight Manual that is appropriate and safe for landing based upon such factors as load, weather, runway conditions, etc. However, since this proposal relates to noise abatement rather than safety, it would expressly recognize that each pilot in command of an airplane covered by the proposal has the final authority and responsibility for the safe operation of his airplane. Therefore, if he determines in the interest of safety that a higher flap setting for that airplane should be used for a particular approach and landing he may do so. The authority for alternative procedures is presently provided under the noise abatement runway system requirements in § 91.87(g) and would be equally appropriate for the noise abatement flap reduction procedures proposed herein.

HEALTH AND WELFARE CONSIDERATION

The EPA Report to Congress on Aircraft and Airport Noise (Reference 1) indicated that large numbers of persons are subjected to levels of cumulative noise exposure due to aircraft operations which have a potential for producing a permanent impairment of hearing, interference with speech, and the generation of annoyance. That report estimated that in 1972, 16 million persons in the United States were subjected, due to aircraft operations, to a Day-Night Average Sound Level of 60 dB or greater. The Day-Night Average Sound Level, Ldn is the measure used by the EPA to express quantitatively the cumulative noise exposure of a population.

Information presented in the Report to Congress (Reference 1) further indicated that, based on available data in the scientific literature, at Ldn values of 60 dB there is about a 2.5 percent occurrence of speech interference and about 23 percent of the exposed population is highly annoyed. Further, the EPA "Levels Document" (Reference 19) specifically identified two long-term average levels of noise exposure which should not be exceeded in order to protect the public health and welfare with an adequate margin of safety:

A Day-Night Level (Ldn) no greater than 55 dB, to protect against annoyance (including interference with speech communication);

An Equivalent Noise Level (Leq) no greater than 70 dB, to protect against significant adverse effects on hearing.

As pointed out in EPA's "Levels Document" the phrase "health and welfare" is taken to mean "complete physical, mental and social well-being and not merely the absence of disease and infirmity". It is clear from the foregoing data that noise due to aircraft operations represents a significant hazard to the health and welfare of millions of persons.

As set forth in the Report to Congress, the EPA has determined that, in order to protect the public health and welfare from aircraft noise, it is necessary that regulations be proposed to the FAA, for promulgation, in the eight subject areas of aircraft noise control listed earlier in this preamble.

The intent of those aircraft noise regulations is to produce a substantial reduction in the number of persons subjected to cumulative noise levels that are considered hazardous to their health and welfare, i.e., in the terms outlined in the foregoing paragraphs, to Ldn values of 55 dB or greater. Although theoretically it might be considered desirable to reduce the day-night level due to aircraft noise to less than 55 dB for all persons, this is an unrealistic goal. As reported in the Levels Document, Reference 19, some 62 million persons in the United States are estimated to be exposed to Ldn 60 or greater due simply to vehicular traffic noise, and some 75 percent of the urban population are estimated to be exposed to ambient sound levels averaging Ldn 55 or greater. Present technology does not provide the capability of reducing cumulative noise due to aircraft operations to Ldn 55 for all persons without essentially destroying the national air-carrier system, with all its attendant benefits to the public health and welfare. And even if aircraft noise were completely eliminated, many millions of persons still would be subjected to cumulative noise in excess of Ldn 55 due to other sources, mainly motor vehicles. Consequently, the EPA has a more modest and realistic goal, namely, to achieve the maximum reduction of cumulative noise due to aircraft operations that is technologically feasible to obtain without exorbitant costs. This is a position consistent with the requirements under the Noise Control Act that EPA, as well as the FAA, must meet in developing and promulgating noise control regulations which are within their respective areas of responsibility.

The EPA believes that the succeeding paragraphs quantify the environmental noise impact associated with aircraft and airport operations. This is done for both a defined baseline situation and for hypothetical situations in which it is assumed that one or more of the proposed aircraft noise regulations has been implemented. Comparison of the various sets of figures provides reasonable estimates of the noise reduction benefits to be gained by implementation of the various regulatory proposals for the control of aircraft noise.

ASSESSMENT OF NOISE IMPACT DUE TO AIRCRAFT OPERATIONS

This section deals with the health and welfare effects of environmental noise in terms of noise impact assessment, which is a methodology for quantifying the extensiveness and severity of noise impact by a single number. An explanation of Noise Impact Methodology has been presented in various EPA publications, including Reference 23. In brief, this methodology comprises the following steps, for each specified environmental noise situation.

1. Determine (or estimate) the number of persons [P(i)] exposed to various ranges of Day-Night Equivalent Sound Level (Ldn) (e.g., 8.5 million persons between Ldn 60 and 65; 4.1 million between Ldn 65 and 70, etc.).

2. Assign to each Ldn range a Fractional Impact value [FI(i)] appropriate to the criterion under consideration. For purposes of this analysis, Ldn 55 is considered to represent a zero impact [FI=0], and Ldn 75 an impact of 1.0 [FI=1.0]. For Ldn 60–65, FI(1) is 0.375; for Ldn 65–70, FI(2) is 0.625; for Ldn 70–75, FI(3) is 0.875, etc.

3. For each range of Ldn values, determine the Noise Impact Contribution as the product of number of persons exposed and fractional impact, or

$$NI(i) = [FI(i)] \times [P(i)]$$

4. Calculate the Equivalent Noise Impact, ENI, as the sum of the Individual Noise Impact contributions, or

$$ENI = \Sigma(i)\ [FI(i)]\ [P(i)]$$

This quantity may be interpreted as the equivalent number of persons "fully impacted" by the noise in the given situation. For residential land use affected by noise, the ENI value is the equivalent number of persons exposed to Ldn 75.

To obtain an estimate of the noise impact reduction resulting from some action, such as implementation of aircraft noise regulation, one would estimate the ENI values for the baseline condition and for the condition existing as a result of the action taken. The result could be expressed as a change in absolute value, or as a ratio, of the baseline Equivalent Noise Impact.

1. *Baseline Noise Impact—Aircraft Operations.* For this analysis, the baseline year of 1972 is used, mainly because the best available analyses of aircraft environmental noise have been premised on a 1972 baseline (References 20–22). Since the Noise Control Act was enacted into law in 1972, this baseline seems quite appropriate.

Of the three references listed, Reference 20, "Aircraft Noise Reduction Forecast", also known as the DOT "23-Airport Study", is the most widely known. It provides the basic data and point of departure for the others. In terms of the individual elements of EPA's proposed regulatory package, Reference 21, which extended the analysis of Reference 20 to cover additional options of noise reductions, seems most nearly oriented towards evaluation of the effects of the various options considered. Consequently, the calculations and results presented in this section are based largely on the data of Reference 21, with key data points confirmed by Reference 20. This latter report adduced that the 23 airports studied accommodated approximately half of the operations nationally of air-carrier jet aircraft. In terms of total impact, however, independent analyses by EPA and its consultants indicated that the population impacted by the operations to and from the 23 airports represented about 63% of the national impacted population. The results presented herein are based on that premise.

On the basis of the information discussed in the previous paragraphs, the EPA has estimated that for the 1972 baseline condition, the national population exposed to Ldn 65 or greater is 7,925,000 persons, and to Ldn 75 or greater is 792,000 persons. This corresponds to an Equivalent Noise Impact (ENI) (considering the population exposed to Ldn 65 or greater) of approximately 5,800,000 persons. By extrapolating the population data, a rough estimate can be obtained of the baseline population exposed to Ldn 60 or greater. This rough estimate is about 25,000,000 persons; the corresponding ENI, considering the population exposed to Ldn 60 or greater, is about 12,000,000 persons.

2. *Noise Impact—Projected Fleet of the late 1970's, with several Noise Control Options Applied.* Summarized below are the estimates of the effects of several of the noise control options that would be undertaken if the regulations package proposed by EPA were promulgated and implemented. The results for the late 1970's, are given in terms of reduction in numbers of persons exposed to Day-Night Equivalent Levels of 65 or greater, and 75 or greater, respectively, and corresponding changes in Noise Impact, taking into account the change in air-carrier fleet mix and number of operations projected for that period.

The conditions considered are the following:

1978 Baseline Fleet (this reflects the introduction of new, less noisy aircraft that meet or better FAR 36 noise limits, and the phasing out of old, noisier aircraft).
Two-Segment Approach.
Noise Abatement Takeoff.
Quiet Nacelle (QN) also referred to as Sound Absorption Material (SAM) Retrofit.

The estimated data on numbers of people affected in various Ldn ranges, and the corresponding changes in Noise Impact, are tabulated below.

1978 BASELINE FLEET (RELATIVE TO 1972 BASELINE):

Population exposed to Ldn 65 or greater reduced by 2,520,000.

Population exposed to Ldn 75 or greater reduced by 287,000.
Severity and extensiveness of impact reduced by 33.6 percent.

TWO-SEGMENT APPROACH (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 570,000.
Population exposed to Ldn 75 or greater reduced by 54,000.
Severity and extensiveness of impact reduced by 10.4 percent.

NOISE ABATEMENT TAKEOFF (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 1,050,000.
Population exposed to Ldn 75 or greater reduced by 102,000.
Severity and extensiveness of impact reduced by 19.1 percent.

QUIET NACELLE RETROFIT (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 1,600,000.
Population exposed to Ldn 75 or greater reduced by 283,000.
Severity and extensiveness of impact reduced by 32.3 percent.

EPA has estimated that reduced flap approach, if universally applied, is about 30 percent as effective as two-segment approach in reducing noise impact. Accordingly, the EPA believes that adoption of the regulation proposed herein would result in a reduction of about 3 percent in the severity and extensiveness of airplane noise impact. Based on an estimated current population of about 6.7 million people exposed to Ldn 65 or greater and about 650,000 people exposed to Ldn 75 or greater, this would mean a reduction of about 200,000 in the number of persons exposed to Ldn 65 or greater, and a reduction of about 20,000 in the number of persons exposed to Ldn 75 or greater. This would be a significant contribution to the protection of the public health and welfare, and would be essentially cost-free.

THRUST REVERSERS

The EPA Report to the Congress in respect to aircraft noise ("Report on Aircraft/Airport Noise", Senate Committee on Public Works, Serial No. 93-8, August 1973) observed, among other things, that thrust reverse noise on landing contributes to noise annoyance at some airports. This noise depends on the amount of the reverse power applied and varies over an extremely wide range, from idle thrust (no appreciable thrust reversal) to almost takeoff power. On the average, thrust reverse noise is approximately 10 EPNdB lower than takeoff noise. The effect of thrust reverse noise on cumulative noise exposure (e.g., Ldn) is often negligible because of its lower level and short duration compared to sideline takeoff noise.

One unpleasant characteristic of thrust reverse noise, however, is its sharp application, making it especially annoying, particularly at night. During that time, takeoff noise is louder at most locations in the community, but the sound builds up gradually. But, in the case of thrust reversal there may be a "startle" effect associated with the noise which becomes a problem when there are people living in the vicinity of an operational runway.

Thrust reversal is used on landing to slow the aircraft at high speeds since the high kinetic energy of the aircraft can cause excessive heating and wear of the wheel brakes at such speeds. As the airplane slows down, the relative effectiveness of the brakes increases while that of the reverse thrust decreases; below about 60 knots, the reverse thrust has very little effect compared to the brakes. However, the use of thrust reversal generally is not necessary even at high speeds for transport category aircraft. Such aircraft have a certificated runway length in which they can safely land and stop without the use of thrust reversers and in all cases that distance is considerably shorter than the runway length available at the airports used by those aircraft. In general, the use or non-use of thrust reversal for a particular landing is situation-dependent and from a safety standpoint it may desirable to deploy thrust reversers on some relatively short runways. However, when landing on a long, dry runway, with no air traffic control urgency, the thrust reverse noise is more detrimental to the public welfare than the additional ground taxi noise that results from the non-use of thrust reversers.

In accordance with the recommendations of the EPA Aircraft/Airport Noise Study Task Group Two Report, it is proposed that the FAA prepare and issue an Advisory Circular which would discuss the appropriate use of thrust reversal and which would encourage pilots to minimize the use of thrust reverse where it does not adversely affect the safety of the landing. The fact that reduced flap settings result in slightly increased landing speeds should also be taken into consideration in that circular.

4-DEGREE GLIDE ANGLE

As pointed out earlier, the EPA is submitting two proposals for rulemaking concerned with two-segment approaches, in addition to the rule discussed herein. Another method of abating approach noise which could provide much of the noise-reduction benefit of the two-segment approach while avoiding some of the costs and complications is the use of a conventional single-segment approach using a glide angle of 4 degrees, instead of the conventional 3 degrees or less.

Conceptually, introduction of a 4 degree glide angle ILS approach would be simple, requiring no change in airborne avionics nor in the basic approach and landing technique now in use. It could be accomplished by a mechanical adjustment of the ground-based ILS glide slope transmitter from a 3-degree to a 4-degree angular orientation above horizontal and appropriate relocation of the marker beacons. For visual approach guidance, the Visual Approach Slope Indicators (VASI) would also have to be modified for the new glide angle, which may involve substantial repositioning of the light bars.

Although a small number of airports now have approach glide path angles greater than 3 degrees, there has not been a thorough systematic program of development testing and in-service evaluation to establish the practical acceptability for all or most airports of a 4-degree glide angle approach. Consequently, it is not proposed herein to initiate rulemaking regarding such an approach. However, the EPA strongly recommends that appropriate studies be initiated to determine both the practical benefits to be gained and the effects, if any, on airplane operation and safety as well as pilot reaction, of a 4° glide angle approach.

THE PROPOSED RULE

In consideration of the foregoing, it is proposed to amend § 91.85 by adding a new paragraph (c) to read as follows:

§ 91.85 Operating on and in the vicinity of an airport: general rules.

* * * * *

(c) When approaching for a landing, each person operating a civil turbojet engine-powered airplane shall use the minimum certificated flap setting set forth in the Airplane Flight Manual that is appropriate to each phase of that approach and landing. However, each pilot in command has final authority and responsibility for the safe operation of his airplane and he may use a different flap setting approved for that airplane if he determines that it is necessary in the interest of safety.

EPA PROPOSAL II: VISUAL TWO-SEGMENT NOISE ABATEMENT APPROACH FOR TURBOJET ENGINE-POWERED AIRPLANES

Under the requirements of Section 7 (a) of the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234) the Administrator of the Environmental Protection Agency conducted a study of aircraft and airport noise and submitted a report thereon to the Congress. ("Report on Aircraft/Airport Noise", Senate Committee on Public Works, Serial No. 93-8, August 1973, Reference 1). Under Section 611 of the Federal Aviation Act, as amended by the Noise Control Act of 1972, the Administrator of the EPA is also required, not earlier than the date of submission of his report to the Congress, to submit to the Federal Aviation Administration proposed regulations to provide such control and abatement of aircraft noise and sonic boom (including control and abatement through the exercise of any of the FAA's regulatory authority over air commerce or air transportation or over aircraft or airport operations) as the Administrator of the EPA determines is necessary to protect the public health and welfare. In accordance with the foregoing requirement, the EPA published in the FEDERAL REGISTER on February 19, 1974 (39 F.R. 6142), a "Notice of Public Comment Period" containing a synopsis of the proposed rules it is considering to achieve a satisfactory level of aircraft noise control and abatement for the protection of the public health and welfare. The proposed rules and the type of control which each rule would implement are as follows:

FLIGHT PROCEDURES NOISE CONTROL

(1) Takeoff procedures.
(2) Approach procedures.
(3) Minimum altitudes.

SOURCE NOISE CONTROL

(4) Retrofit/fleet noise level.
(5) Supersonic Civil aircraft noise.
(6) Modifications to Part 36 of the Federal Aviation Regulations.
(7) Propeller driven small airplanes.
(8) Short haul aircraft.

AIRPORT OPERATIONS NOISE CONTROL

(9) Airport goals, mechanisms and procedures by which noise exposure of communities around airports can be limited to levels consistent with public health and welfare requirements.

This proposed rule is identified as the visual two-segment noise abatement approach portion of Item (2) above.

REFERENCES

In the development of this proposed rule the EPA evaluated several pertinent studies made by Federal agencies and private persons. Those studies are listed herein for the information of all interested persons and are available for examination at the FAA Rules Docket Office, GC-24, 800 Independence Avenue SW., Washington, D.C. 20590, or the Environmental Protection Agency, Office of Noise Control Programs, Crystal Mall 2, 1921 Jefferson Davis Highway, Arlington, Va. 20460.

(1) "Report on Aircraft/Airport Noise", Report of the Administrator of the Environmental Protection Agency in Compliance with Public Law 92-574, Senate Committee on Public Works, Serial No. 93-8, August 1973.

(2) "Operations Analysis Including Monitoring, Enforcement, Safety and Cost", Report of Task Group 2, EPA NTID 73.3, 27 July 1973.

(3) "Operational Noise Abatement Procedures Designed to Limit the Amount of Disturbance Caused by Aircraft Taking Off, In Flight, or Landings", International Conference on the Reduction of Noise and Disturbance Caused by Civil Aircraft, London, November 1966.

(4) "Note on Effect of Thrust and Altitude on Noise in Steep Approaches", NASA, LWP-283, September 14, 1966.

(5) "Flight Investigations of Methods for Implementing Noise Abatement Landing Approaches", "Progress of NASA Research Relating to Noise Alleviation of Large Subsonic Jet Aircraft", NASA SP-189, October 8-10, 1968.

(6) "Flight and Simulation Investigation of Methods for Implementing Noise Abatement Landing Approaches", NASA TN D-5781, May 1970.

(7) "Measurement and Analysis of Noise from Four Aircraft During Approach and Departure Operations (727, KC-135, 707-320B, and DC-9)", FAA Report FAA-RD-71-84, September 1971.

(8) "Preliminary Results on Two-Segment Noise Abatement Studies", NASA TM X-62, 098, September 22, 1971.

(9) "Noise Reductions Achieved on a 720-023B Aircraft Using a Two-Segment Approach", NASA CR-14417, December 1971.

(10) "Flight Evaluation of Two-Segment Approaches for Jet Transport Noise Abatement", American Airlines NASA Contractor Report, prepared under Contract No. NAS 2-6501, June 1973.

(11) "Aircraft Noise Reduction Technology", Report by the National Aeronautics and Space Administration to the Environmental Protection Agency for the Aircraft/Airport Noise Study, March 30, 1973.

(12) D. G. Denery, et al, "Status Report on NASA Two-Segment Approach Program", Paper 750594, presented at the SAE Air Transportation Meeting, Hartford, Conn., May 6-8, 1975.

(13) "Research and Technology for Aircraft Noise Abatement", statement by Deputy Associate Administrator, NASA, before Subcommittee on Aviation, Committee on Commerce, U.S. Senate, July 1973.

(14) "Initial Flight and Simulator Evaluation of a Head-Up Display for Standard and Noise Abatement Visual Approaches", NASA, TM X-62, 187, February 1973.

(15) "NBAA Noise Abatement Program", National Business Aircraft Association, Report SR 67-12, June 1967.

(16) "Effects of Aircraft Operations on Community Noise", The Boeing Company, Commercial Airplane Group, June 1971.

(17) "A Comparison of Aircraft Approach Angles at Los Angeles and San Diego International Airports", City of Inglewood, California, June 1972.

(18) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety", EPA Technical Document 550/9-74-004, March 1974.

(19) C. Bartel, L. C. Sutherland and L. Simpson, "Airport Noise Reduction Forecast", DOT Report DOT-TST-75-3, October 1974.

(20) J. E. Wesler, "Airport Noise Abatement—How Effective Can It Be?", *Sound and Vibration*, February 1975, pp. 16-21.

(21) R. H. Peterson and R. F. Burke, "Studies of Methods for Reducing Community Noise Around Airports", Nielsen Engineering and Research, Inc., Report NEAR TR 73, prepared under contract no. NAS2-8190 for NASA/Ames, August 1974.

(22) "Field Evaluation of 3000 Ft. Glideslope Intercept Program", Report No. FAA AT-72-1, March 1972.

(23) "Approach and Landing Procedures for Noise Control", EPA Project Report, 1 July 1975.

REGULATORY HISTORY

Advance Notice of Proposed Rule Making (ANPRM) 74-12 (39 FR 11193), issued by the FAA on March 20, 1974, proposed regulations that would require aircraft landing at specified airports to use a two-segment Instrument Landing System (ILS) approach in order to reduce the noise impact on persons or property underlying the approach path. The proposed regulations would apply to all civil turbojet engine-powered airplanes conducting an ILS approach to over 100 ILS equipped runways located at 58 major airports in the U.S. The 55 airports, identified in ANPRM 74-12, listed by state, that are under consideration for implementation of the two-segment ILS noise abatement approach are repeated herein for the information of all interested persons.

Arizona (Sky Harbor (Phoenix), Tucson International);
California (Fresno Air Terminal, Hollywood-Burbank, Lindberg Field (San Diego), Long Beach, Oakland International, Los Angeles International, Ontario International, Orange County (Santa Ana), San Jose Municipal, San Francisco International);
Colorado (Stapleton International (Denver));
Connecticut (Bradley International (Windsor Locks));
Florida (Miami International, Tampa International);
Georgia (Atlanta Hartsfield International);
Illinois (Chicago-Midway, Chicago-O'Hare International);
Iowa (Des Moines Municipal);
Kentucky-Ohio (Greater Cincinnati, Standiford Field (Louisville));
Louisiana (New Orleans International);
Maine (Bangor International, Portland International);
Massachusetts (Barnstable Municipal (Hyannis), Logan International (Boston));
Michigan (Detroit-Wayne County Metropolitan);
Minnesota (Minneapolis-St. Paul International);
Missouri (Lambert International (St. Louis));
Nebraska (Eppley Airfield (Omaha));
New Jersey (Atlantic City, Mercer County (Trenton), Morristown Municipal, Newark);
New York (Albany County, J. F. Kennedy International (New York), LaGuardia (New York), Stewart (Newburgh), Westchester County (White Plains));
Ohio (Cleveland-Hopkins International, Dayton Municipal, Port Columbus International);
Oklahoma (Tulsa International, Will Rogers World (Oklahoma City));
Pennsylvania (Philadelphia International);
Rhode Island (T. F. Green (Providence));
Texas (Dallas-Ft. Worth Regional, Houston Intercontinental, San Antonio International);
Vermont (Burlington International);
Virginia (Dulles International (D.C.), Washington National (D.C.));
Washington (Lewiston Nez Perce, Seattle-Tacoma International); and
Wisconsin (Madison Municipal).

As in the case of other noise reduction proposals, comments received from persons residing in the vicinity of the airports concerned generally favored the two-segment ILS approach. The comments received from the American Association of Airport Executives (AOCI) also favored the proposal as an effective means of reducing the impact of flight operations in the approach area. In the opinion of one major West Coast airport operator the proposal would, if adopted, result in a very great cost benefit for the entire aviation industry. The operator stated that at his airport alone the potential liability for noise is in excess of $3 billion and that a reduction of the 90 EPNdB impact area in each approach zone from 18 square miles to 3.7 square miles is a very dramatic and helpful improvement that could be of great significance in that liability. It should be pointed out here that this estimate of the improvement obtainable with two-segment approach is over-optimistic; a 30 to 60% reduction in the 90 EPNdB area is more typical.

Conversely, however, the aircraft operators were generally opposed to the two-segment ILS approach. The Airline Pilots Association (ALPA and IFALPA), speaking for its members, stated that the two-segment ILS approach. The Airline ceptable to the pilot community and as proposed, it leaves many questions still unresolved. As an optional method of reducing noise the pilot associations suggest quieter airplanes and retrofit. The Air Transport Association (ATA), on the other hand, speaking on behalf of the air carrier members, believes the benefits of a two-segment approach are overstated and the costs understated. Moreover, it believes the two-segment ILS approach is not yet adequately proved in service to introduce as a mandatory procedure.

The National Business Aircraft Association (NBAA), speaking on behalf of its members who use aircraft in the conduct of their business, stated that the two-segment ILS approach under IFR was not warranted at this time on the combined grounds of possible degradation of safety, small noise reduction potential, and high cost. The Aircraft Owners and Pilots Association (AOPA) were also opposed to the use of a two-segment approach and raised the issue of safety in regard to wake turbulence.

INTRODUCTION AND BASIS

As stated in the previous notice (ANPRM 74-12), that rule would require an ILS approach and landing to be conducted at those airports designated above. The approach would consist of a two-part descent with the upper segment glide angle flown at 5 to 6 degrees, depending on the type of aircraft, and with the second segment being flown using the existing ILS glide slope angle. Transition between upper and lower segments would be accomplished far enough from touchdown to allow stabilized conditions by 700 feet height above airport (HAA). Normally, the transition would begin approximately three nautical miles from runway threshold and be completed by two nautical miles from threshold. The regulation would allow a stable, controlled approach down to the Category I weather minimums in the standard instrument approach procedures issued under Part 97 of the Federal Aviation Regulations. The regulation would apply to all civil turbojet airplanes.

It is to be noted that some persons, who did not favor the two-segment approach under IFR, were not opposed to such an approach under visual weather conditions. As a matter of fact, such approach procedures under visual weather conditions are being used by certain air carriers at some airports with B-727 and B-737 airplanes. One operator has used the visual two-segment approach at the San Diego International Airport for over a decade using aircraft types as large as DC-8s. Based upon the studies and tests described and referred to herein, the EPA believes that a two-segment ILS approach under visual conditions would provide significant noise relief. Moreover, it may be immediately useful during visual weather conditions at most major airports that have Distance Measuring equipment colocated with the ILS installation (ILS/DME). Reference (2) indicates that visual weather conditions (in accordance with the visual critera discussed herein) prevail about 70 percent of the time at a number of the major airports in the United States.

The NASA and FAA began research work on steep single-segment and two-segment approaches early in the 1960's. The results indicate that the noise reduction aspects of the two-segment approach procedure holds substantial promise for significant noise reduction without degradation of safety, especially for turbojet powered airplanes.

In 1966, the FAA installed an experimental dual ILS glide path system at Dulles Airport that provided guidance for a two-segment approach. The first and second segment approach angles were 5.5 and 2.5 degrees, respectively. The transition point from the first to the second segment occurred at approximately 1,140 ft altitude, 827 ft HAA) and 3.1 nautical miles from the runway threshold (827 ft/3.1 nm). With the use of these approach procedures, as reported in Reference (3), a noise reduction of 10 dB (overall sound pressure level) was reported at a distance of 26,000 ft (4.3 nm) from the runway threshold.

As shown in the NASA study reported in Reference (4), the noise reduction due to steeper approaches is caused by two factors, the increased altitudes and the reduced power setting. For the four engine turbojet airplane used in that study, increasing the glide slope angle from 3 to 6 degrees reduced the overall sound pressure level under the flight track by 11.5 to 13.5 dB, of which approximately 7 dB was due to thrust reduction, the remainder being due to increased altitude.

NASA studies [References (5) and (6)] were also conducted to determine the requirements that would enable pilots to fly two-segment approach profiles with the precision common to conventional instrument landing approaches, without an increase in pilot workload. The approach profiles were evaluated by eleven pilots using a research four-engine turbojet powered airplane which had a flight director modified for two-segment approaches, an autothrottle, and both longitudinal and lateral directional stability augmentation. The studies concluded that a two-segment approach could be flown in the modified airplane with the same precision as a conventional instrument landing approach without a significant increase in pilot workload in the nearly ideal conditions of the tests.

The NASA tests reported in Reference (6) used a B-727 three-engine aircraft to fly 6/3 degrees two-segment approaches with transition starting at 1,115 ft/3.4 nm and completed by 722 ft/2.6 nm. Test results for these approaches indicated a noise reduction of 6 EPNdB at 3 nm and 10 EPNdB at 4.5 nm from threshold.

The FAA tests reported in Reference (7) studied nine approach noise abatement procedures for four different types of aircraft (B-727, KC-135, B-707-320B, and DC-9). The weather conditions for the tests varied considerably, a situation typical of actual line operations and, therefore, considerable scatter was evident in the data. Nevertheless, the report concluded that a "two-segment approach can achieve significant reductions in noise along the ground". Both procedures used an initial intercept height of 3,000 ft HAA and full flaps. The results of these tests also indicated a noise reduction averaging 10 to 14 EPNdB at 5 to 7 nautical miles from the runway threshold achieved by the use of the two-segment approach.

The studies reported in References (8) through (10) were conducted by NASA with American Airlines and Hydrospace Research Corporation as contractors. In these studies, two-segment approaches (6/2.5 degrees with transition at 400 ft/1.5 nm) were evaluated during 75 hours of flight in a B-720 four engine turbojet powered aircraft. A total of 28 pilots (2 project pilots and 26 guest pilots representing air carriers, FAA, ALPA, APA and NASA) flew 234 two-segment approaches and 34 normal ILS approaches. All the tests were made during the daytime and in calm, VFR weather conditions.

The results of the tests were then presented to advisory committees, composed of individuals representing the airlines, airframe manufacturers, avionics suppliers, ATA, ALPA, and the Government who agreed that the two-segment approach appeared operationally feasible, but warranted additional evaluation under representative operational conditions in other types of aircraft. The committees recommended that one of the aircraft should be a B-727 because that type of aircraft accounts for the largest number of arrivals and departures and is used by more air carriers than any other type of aircraft. The committee also recommended that another type of aircraft to be used in the tests should be a long-range type of aircraft such as the DC-8 or B-707 because those aircraft differ significantly from the B-727 type of aircraft and have a larger noise footprint.

In accordance with recommendations of the advisory committee, the B-727 on-line flight test was conducted by United Airlines under contract to NASA and the DC-8 on-line flight tests (also conducted by United Airlines) were recently completed [References (11-13) above]. The conclusions reached in those tests will be carefully considered in any final rulemaking action based upon this notice of proposed rulemaking.

The NASA tests reported in Reference (14) evaluated thirty-three approaches with a B-747 aircraft equipped with a cockpit "head-up" display Visual Approach Monitor (VAM) to aid the pilot in transitioning to a normal glide path from either a higher or a lower position. When compared with a standard 3 degrees approach, noise measurements made during those approaches again indicate considerable noise reductions. The reductions ranged from 6 EPNdB at 1 nm (from threshold) to 11 EPNdB at 5 nm for a 6/3 degrees approach with transition at 660 ft/2.1 nm. Since a 6 degrees upper segment with 25 degrees flaps was slightly too steep for the B-747 aircraft, use of 30 degrees flaps and/or 5 degrees upper segment was recommended for future tests.

In addition to the studies conducted by NASA and FAA, it is to be noted that air carriers, aircraft manufacturers and aeronautical associations have made studies regarding the feasibility of the two-segment approach, and in some cases, air carriers are using such approaches. For example, in a report dated 12 June 1967, the National Business Aircraft Association recommended the use of two-segment approaches in VFR conditions [see Reference (15) listed above].

The Boeing Company in a report issued in June, 1971 [see Reference (16)], investigated the reduction of noise by the use of the two-segment approach. For a 6/3 degrees approach with transition at 1,000 ft/3 nm, the Boeing report predicted a noise reduction ranging from 5.5 EPNdB at 3.5 nm to 9.5 EPNdB at 6 nm for its B–727 aircraft. Using electronic guidance and a transition (250 ft HAA) closer to the airport, the report also predicted a noise reduction ranging from 5.2 EPNdB at 1 nm to 13 EPNdB at 6 nm.

In 1967, National Airlines began using a two-segment approach at Miami International Airport with weather minimums of 300 ft. ceiling and 5 miles visibility. In 1972, Pacific Southwest Airlines started to use a visual two-segment approach at airports used by that airline in California. In the same year, Air California also started to use a visual two-segment decelerating approach with B–737 type aircraft. The two-segment approach is also used by aircraft as large as a DC–8 at the San Diego International Airport. Most of the approaches at this airport are made over high terrain to the east of the runway which necessitates a steep approach. This approach may be either a 4.5 degrees single-segment [a nonstandard Visual Approach Slope Indicator (VASI) at this angle provides a visual reference], or a two-segment approach with a close-in transition, i.e., closer than 1 nm from runway threshold [Reference (17), above].

As distinguished from the two-segment approach procedure in the Advance Notice of Proposed Rulemaking, 74–12, issued on March 20, 1974, (39 F.R. 11193), the two-segment approach procedure in this notice would apply only to an approach conducted in visual weather conditions as set forth herein. Moreover, it would be limited to civil turbojet powered airplanes.

A two-segment approach under IFR conditions as proposed in the ANPRM 74–12 would require an electronic equipment retrofit for all U.S. and foreign aircraft using the 58 airports in the United States having a noise sensitive area within 3 to 8 miles from the runways under the approach path. In the case of air carrier aircraft the time required for the installation of guidance equipment concurrent with scheduled aircraft down time is estimated to be approximately 3 to 4 years for a normal schedule, and approximately 2½ to 3 years for an accelerated schedule [Reference (2), above].

In addition to the substantial cost, as discussed below under "Cost Consideration" and the time required for the installation of the airborne equipment and ground facilities needed to properly conduct a two-segment ILS approach, it appears that a generally accepted total system (airborne equipment, ground facilities and flight tested procedures) for an ILS two-segment approach is not available at the present time. Notwithstanding the fact that the FAA and NASA flight tests described herein were conducted with equipment which enables the pilots to safely conduct a guided ILS two-segment approach, it should be noted that most of the tests were made with experimental equipment or procedures and under ideal weather conditions. Only the NASA/United Airlines tests were in actual line operations. Although ground facilities and airborne equipment are now available,

(1) ILS colocated with DME (ILS/DME) and glideslope computer, and Very High Frequency Omnidirectional Range colocated with Tactical Air Navigation (VORTAC) and 3-Dimensional Area Navigation (3D–RNAV) equipment, or in the research phase,

(2) Microwave Landing Systems (MLS), approved procedures have not yet been established with this equipment for a two-segment ILS approach for routine commercial operations.

An additional uncertainty at present regarding two-segment approaches is the possibility of wake turbulence. However, as reported in Reference (11), the two-segment approach apparently presents no greater problem in regard to wake turbulence than does the conventional approach. As stated in the ANPRM 74–12, the FAA and NASA are conducting experiments to define this problem more precisely. Pending the results of that study, however, the EPA believes that under the visual conditions proposed herein, small aircraft not subject to this proposal can maintain a flight path above the turbojet powered airplanes by visual reference without any additional hazard.

In view of the foregoing, complete implementation of a two-segment ILS approach as proposed in the ANPRM 74–12 would not be achieved for several years. As an interim measure, the EPA believes that a two-segment approach under the visual conditions described herein, using ILS and colocated DME, is technically feasible at this time, well within the safe operating performance of turbojet powered airplanes, and is capable of being standardized for use at any airport having those facilities. Consequently, a two-segment visual approach, if introduced now, would achieve significant noise reductions at those airports having the necessary ground facilities (ILS and colocated DME), without the delay that would be required for the installation of airborne equipment needed for a two-segment ILS approach. If the two-segment visual approach were adopted, it could then be implemented at other airports as rapidly as the necessary ground facilities are installed at those airports.

Accordingly, in order to protect the health and welfare of those persons living in the noise sensitive areas of the airports at which the rule would apply, it is proposed to require all civil turbojet powered airplanes to use an approved visual two-segment approach when approaching for a landing at those airports under the weather and other conditions set forth in this proposal. If the ILS two-segment approach regulation also were promulgated, to take effect at an appropriate date in the future, the regulation could incorporate both approaches, prescribing the visual two-segment approach, as an interim measure, at those airports with the necessary ILS/DME facilities, to be superseded by the ILS two-segment approach when that is effectuated.

HEALTH AND WELFARE CONSIDERATIONS

The EPA Report to Congress on Aircraft and Airport Noise (Reference 1) indicated that large numbers of persons are subjected to levels of cumulative noise exposure due to aircraft operations which have a potential for producing a permanent impairment of hearing, interference with speech, and the generation of annoyance. That report estimated that in 1972, 16 million persons in the United States were subjected, due to aircraft operations, to a Day-Night Average Sound Level of 60 dB or greater. The Day-Night Average Sound Level, Ldn is the measure used by the EPA to express quantitatively and cumulative noise exposure of a population.

Information presented in the Report to Congress (Reference 1) further indicated that, based on available data in the scientific literature, at Ldn values of 60 dB there is about a 2.5 percent occurrence of speech interference and about 23 percent of the exposed population is highly annoyed. Further, the EPA "Levels Documents" (Reference 18) specifically identified two long-term average levels of noise exposure which should not be exceeded in order to protect the public health and welfare with an adequate margin of safety:

A Day-Night Level (Ldn) no greater than 55 dB, to protect against annoyance (including interference with speech communication);

An Equivalent Noise Level (Leq) no greater than 70 dB, to protect against significant adverse effects on hearing.

As pointed out in EPA's "Levels Document" the phrase "health and welfare" is taken to mean "complete physical, mental and social well-being and not merely the absence of disease and infirmity". It is clear from the foregoing data that noise due to aircraft operations represents a significant hazard to the health and welfare of millions of persons.

As set forth in the Report to Congress, the EPA has determined that, in order to protect the public health and welfare from aircraft noise, it is necessary that regulations be proposed to the FAA, for promulgation, in the eight subject areas of aircraft noise control listed earlier in this preamble.

The intent of those aircraft noise regulations is to produce a substantial reduction in the number of persons subjected to cumulative noise levels that are considered hazardous to their health and welfare, i.e., in the terms outlined in the foregoing paragraphs, to Ldn values of 55 dB or greater. Although theoretically it might be considered desirable to reduce the day-night level due to aircraft noise to less than 55 dB for all persons, this is an unrealistic goal. As reported in the Levels Document, Reference 18, some 62 million persons in the

United States are estimated to be exposed to Ldn 60 or greater due simply to vehicular traffic noise, and some 75 percent of the urban population are estimated to be exposed to ambient sound levels averaging Ldn 55 or greater. Present technology does not provide the capability of reducing cumulative noise due to aircraft operations to Ldn 55 for all persons without essentially destroying the national air-carrier system, with all its attendant benefits to the public health and welfare. And even if aircraft noise were completely eliminated, many millions of persons still would be subjected to cumulative noise in excess of Ldn 55 due to other sources, mainly motor vehicles. Consequently, the EPA has a more modest and realistic goal, namely, to achieve the maximum reduction of cumulative noise due to aircraft operations that is technologically feasible to obtain without exorbitant costs. This is a position consistent with the requirements under the Noise Control Act that EPA as well as the FAA, must meet in developing and promulgating noise control regulations which are within their respective areas of responsibility.

The EPA believes that the succeeding paragraphs quantify the environmental noise impact associated with aircraft and airport operations. This is done for both a defined baseline situation and for hypothetical situations in which it is assumed that one or more of the proposed aircraft noise regulations has been implemented. Comparison of the various sets of figures provides reasonable estimates of the noise reduction benefits to be gained by implementation of the various regulatory proposals for the control of aircraft noise.

ASSESSMENT OF NOISE IMPACT DUE TO AIRCRAFT OPERATIONS

This section deals with the health and welfare effects of environmental noise in terms of noise impact assessment, which is a method for quantifying the extensiveness and severity of noise impact by a single number. An explanation of Noise Impact Methodology has been presented in various EPA publications, including Reference 23. In brief, this methodology comprises the following steps, for each specified environmental noise situation.

1. Determine (or estimate) the number of persons [P(i)] exposed to various ranges of Day-Night Equivalent Sound Level (Ldn) (e.g., 8.5 million persons betwen Ldn 60 and 65; 4.1 million between Ldn 65 and 70, etc.)

2. Assign to each Ldn range a Fractional Impact value [FI(i)] appropriate to the criterion under consideration. For purposes of this analysis, Ldn 55 is considered to represent a zero impact [FI=0], and Ldn 75 an impact of 1.0 [FI=1.0]. For Ldn 60–65, FI(1) is 0.375; for Ldn 65–70, FI(2) is 0.625; for Ldn 70–75, FI(3) is 0.875; etc.

3. For each range of Ldn values, determine the Noise Impact Contribution as the product of number of persons exposed and fractional impact, or

$$NI(i) = [FI(i)] \times [P(i)]$$

4. Calculate the Equivalent Noise Impact, ENI, as the sum of the individual Noise Impact contributions, or

$$ENI = \Sigma(i)\,[FI(i)]\,[P(i)].$$

This quantity may be interpreted as the equivalent number of persons "fully impacted" by the noise in the given situation. For residential land use affected by noise, the ENI value is the equivalent number of persons exposed to Ldn 75.

To obtain an estimate of the noise impact reduction resulting from some action, such an implementation of aircraft noise regulation, one would estimate the ENI values for the baseline condition and for the condition existing as a result of the action taken. The result could be expressed as a change in absolute value, or as a ratio, of the baseline Equivalent Noise Impact.

1. *Baseline Noise Impact—Aircraft Operations.* For this analysis, the baseline year of 1972 is used, mainly because the best available analyses of aircraft environmental noise have been premised on a 1972 baseline (References 19–21). Since the Noise Control Act was enacted into law in 1972, this baseline seems quite appropriate.

Of the three references listed, Reference 19, "Aircraft Noise Reduction Forecast", also known as the DOT "23-Airport Study", is the most widely known. It provides the basic data and point of departure for the others. In terms of the individual elements of EPA's proposed regulatory package, Reference 20, which extended the analysis of Reference 19 to cover additional options of noise reduction, seems most nearly oriented towards evaluation of the effects of the various options considered. Consequently, the calculations and results presented in this section are based largely on the data of Reference 20, with key data points confirmed by Reference 19. This latter report adduced that the 23 airports studied accommodated approximately half of the operations nationally of air-carrier jet aircraft. In terms of total impact, however, independent analyses by EPA and its consultants indicated that the population impacted by the operations to and from the 23 airports represented about 63% of the national impacted population. The results presented herein are based on that premise.

On the basis of the information discussed in the previous paragraphs, the EPA has estimated that for the 1972 baseline condition, the national population exposed to Ldn 65 or greater is 7,925,000 persons, and to Ldn 75 or greater is 792,000 persons. This corresponds to an Equivalent Noise Impact (ENI) (considering the population exposed to Ldn 65 or greater) of approximately 5,800,000 persons. By extrapolating the population data, a rough estimate can be obtained of the baseline population exposed to Ldn 60 or greater. This rough estimate is about 25,000,000 persons; the corresponding ENI, considering the population exposed to Ldn 60 or greater, is about 12,000,000 presons.

2. *Noise Impact—Projected Fleet of the late 1970's, with several Noise Control Options Applied.* Summarized below are the estimates of the effects of several of the noise control options that would be undertaken if the regulations package proposed by EPA were promulgated and implemented. The results, for the late 1970's, are given in terms of Reduction in numbers of persons exposed to Day-Night Equivalent Levels of 65 or greater, and 75 or greater, respectively, and corresponding changes in Noise Impact, taking into account the change in air-carrier fleet mix and number of operations projected for that period.

The conditions considered are the following:

1978 Baseline Fleet (this reflects the introduction of new, less noisy aircraft that meet or better FAR 36 noise limits, and the phasing out of old, noisier aircraft).
Two-Segment Approach.
Noise Abatement Takeoff.
Quiet Nacelle (QN) also referred to as Sound Absorption Material (SAM) Retrofit.

The estimated data on numbers of people affected in various Ldn ranges, and the corresponding changes in Noise Impact, are tabulated below.

1978 BASELINE FLEET (RELATIVE TO 1972 BASELINE)

Population exposed to Ldn 65 or greater reduced by 2,520,000.
Population exposed to Ldn 75 or greater reduced by 287,000.
Severity and extensiveness of impact reduced by 33.6%.

TWO-SEGMENT APPROACH (RELATIVE TO 1978 BASELINE)

Population exposed to Ldn 65 or greater reduced by 570,000.
Population exposed to Ldn 75 or greater reduced by 54,000.
Severity and extensiveness of impact reduced by 10.4%.

NOISE ABATEMENT TAKEOFF (RELATIVE TO 1978 BASELINE)

Population exposed to Ldn 65 or greater reduced by 1,050,000.
Population exposed to Ldn 75 or greater reduced by 102,000.
Severity and extensiveness of impact reduced by 19.1%.

QUIET NACELLE RETROFIT (RELATIVE TO 1978 BASELINE)

Population exposed to Ldn 65 or greater reduced by 1,600,000.
Population exposed to Ldn 75 or greater reduced by 283,000.
Severity and extensiveness of impact reduced by 32.3%.

Although adoption of visual two-segment approach would not provide as much benefit as a completely instrumented (e.g., ILS) two-segment approach, substantial improvement, nevertheless, would be expected. For example, introduction of visual two-segment approach at ten of the nation's busiest airports would be expected to result in a reduction in Noise Impact of more than one-third the total national reduction estimated for the ILS two-segment approach, taking into account the population exposed to airplane noise around those airports and the requirement for specified daylight visual conditions.

Although not all of the EPA proposed regulations for control of aircraft noise can be quantified directly in terms of the reduction in Equivalent Noise Impact, it is apparent from the foregoing discussion that a serious noise impact now exists, and prompt action is necessary to protect the public health and welfare. It also is apparent that, although the expected evolution of the fleet will reduce the noise impact significantly, implementation and promulgation of aircraft noise regulations is a necessary and important part of the action that needs to be taken, and will yield substantial benefits in reducing the number of persons seriously impacted by noise.

COST CONSIDERATIONS

The visual two segment noise abatement approach procedures proposed in this notice, will not place any additional airborne equipment requirements upon the aircraft operators concerned. However, it is anticipated that there would be a change in the operational costs for the aircraft involved. As previously explained, steeper approach procedures reduce the noise exposure area due to their inherently higher approach altitudes and required lower power settings. These lower power settings in the approach phase of a flight directly translate into fuel savings. Conversely, higher approach altitudes induce higher operational costs due to:

(a) The decreased practical capacity of an airport;

(b) The increased delay times resulting from the dynamics of flight control at an airport; and

(c) The increased maneuver distances associated with the geometry of two-segment approaches.

It is estimated that the minimum increase, due to the above factors, for a 3000 ft glide slope intercept procedure, is roughly $8.55 per flight [Reference (22), above]. However, countering that cost increase is reduced fuel consumption due to the lower power settings. That fuel saving is estimated to be about 380 pounds (or some 58 gallons) per landing for a B-727 aircraft when compared to a conventional approach. On a per landing basis, saving 58 gallons of fuel at 25 cents per gallon translates into an operational cost savings of $14.50. This saving will continue to increase in accordance with the increase in the cost of aviation fuel. Since per landing savings exceed the potential induced costs, adoption of the proposed procedures is economically reasonable in respect to the operators of the airplane to which the procedures would apply.

If a consistent intercept point for the visual two-segment approach is desired, it is necessary to have DME colocated with the ILS. This proposed alteration to the ATC system will take time and money to implement. Of the over 100 ILS approaches to which this rule would apply, very few have colocated DME. It is estimated that it will cost approximately $50,000 per installation and the total cost to the FAA for 100 installations would be approximately 5 million dollars. However, a large proportion of the total potential benefit could be achieved by installation of colocated ILS and DME at a small number of airports in the largest cities, and instituting the two-segment visual approach at selected runways at those airports. For example, implementation of two-segment visual approach at Los Angeles International Airport (LAX), which already has ILS/DME, would result in a reduction of 72 percent of the population exposed to Ldn 65 or greater [Reference (19)]. This signifies a decrease at that airport from about 293,000 persons in 1972 to 81,000 persons in 1978 exposed to Ldn 65. This would correspond approximately to a reduction in Equivalent Noise Impact (ENI) of more than 36,000 persons attributable solely to implementation of visual two-segment approach at LAX, in addition to a reduction in ENI of about 156,000 persons due to the assumed changes in the air-carrier fleet. The economic reasonableness of the cost for the total installation may be presumed from these figures and the corresponding fact that use of the proposed visual two-segment approach would achieve much of the national reduction in ENI of 432,000 persons estimated for two-segment ILS approach.

EXCEPTIONS

Under the provisions of this proposal, each pilot in command of an aircraft to which the rule applies is expressly given final authority and responsibility for the safe operation of his airplane. If he determines in the interest of safety that a procedure other than the two-segment visual approach should be used for a particular approach and landing, he may use another approved procedure upon notice thereof to Air Traffic Control (ATC). The authority for alternative procedures is presently provided under the noise abatement runway system requirements of § 91.87(g) and would be equally appropriate for the noise abatement procedure requirements proposed herein. Since the proposed two-segment approach would apply to those approaches made under visual weather conditions it would also except those approaches that could not be conducted in accordance with the applicable VFR distance from cloud criteria.

NOISE ABATEMENT PROCEDURE CRITERIA

If the two-segment approach under visual conditions is made mandatory, it is proposed to apply the criteria set forth below for the use of such facilities. Comments in regard to those, or other criteria deemed necessary or desirable for the use of a two-segment approach under visual conditions should also be submitted by interested persons for consideration by the FAA and EPA in conjunction with the adoption of the visual two-segment approach.

VISUAL WEATHER CONDITIONS

(1) Daylight hours.

(2) Ceiling at or above 3,000 ft HAA in the approach area.

(3) Flight visibility at or greater than 5 nm in the approach area.

LANDING AIDS

(1) Operative ILS glide slope with appropriately located DME.

FLIGHT PROFILE

(1) At or above 3,000 ft HAA at flight path distances of 7 nm or more from the runway threshold.

(2) The first segment at a glide angle of 5 to 6 degrees with the initial intercept at 3,000 ft/7 nm, transitioning to the second segment along the ILS glide slope (nominally, 3 degrees). Initial intercept at 3,000 ft/6 nm also may be considered, although, as shown below, this would result in an undesirably low transaction altitude for a first segment glide angle of 5 degrees. The following table shows the flight profile transition points for the 6 and 7 nm entry points and first segment angles of 5 and 6 degrees.

ENTRY AT 3,000 FT/6 NM

(1) 6/3 degrees, transition at 930 ft/2.7 nm

(2) 5/3 degrees, transition at 400 ft/1.1 nm

ENTRY AT 3,000 FT/7 NM

(1) 6/3 degrees, transition at 1,570 ft/4.7 nm

(2) 5/3 degrees, transition at 1,200 ft/3.6 nm

For the majority of the turbojet powered airplanes, under most conditions, the entry at 3,000 ft/6 nm would permit transition to be initiated at 1,000 ft. and completed prior to 500 ft. However, for certain low drag airplanes, such as the DC-8, a 5 degrees upper segment is more appropriate than 6 degrees, and this would result in a very low transition altitude. The use of a 3,000 ft/7 nm entry point not only accommodates such low drag but also allows for unusual variations in tailwind, airspeed, wind shear, or other factors that may make the 6 nm entry point marginal under some conditions.

Any two-segment visual approach procedure approved by the Administrator for the use of a particular runway, including the conditions and limitations appropriate for its use, would be established by him under procedures similar to those now used for the establishment of standard instrument approach procedures prescribed in Part 97. However, to distinguish the two-segment approach procedures from the standard instrument approach procedures they would be placed in a separate Part 98 and portrayed on appropriate aeronautical charts in addition to being published in the 9irman's Information Manual.

THE PROPOSED RULE

In consideration of the foregoing, it is proposed to amend § 91.87 of the Federal Aviation Regulations as follows:

1. By striking the word "and" appearing at the end of paragraph (e)(1) and adding a semicolon and the word "and" at the end of paragraph (e)(2).

2. By adding a new subparagraph (e)(3) to read as follows:

§ 91.87 Operation at airports with operating control towers.

* * * * *

(e) *Approaches.* * * *

(3) A civil turbojet engine-powered airplane shall, when making an approach for a landing under visual weather conditions on a runway having an approved visual two-segment approach procedure prescribed in Part 98 of this Chapter, use that procedure unless he notifies ATC that he finds it necessary in the interest of safety, or compliance with the applicable distance from cloud criteria, to use a different procedure approved for an approach and landing on that runway. As used in this subparagraph, "visual weather conditions" means during daylight hours when the ceiling and visibility in the approach are are 3,000 ft HAA and 5 nautical miles from the runway threshold, respectively.

EPA PROPOSAL III: TWO-SEGMENT ILS NOISE ABATEMENT APPROACH FOR TURBOJET ENGINE-POWERED AIRPLANES

Under the requirements of Section 7 (a) of the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234) the Administrator of the Environmental Protection Agency conducted a study of aircraft and airport noise and submitted a report thereon to the Congress. (Report on Aircraft/Airport Noise, Senate Committee on Public Works, Serial No. 93-8, Aug. 1973, Reference 16). Under Section 611 of the Federal Aviation Act, as amended by the Noise Control Act of 1972, the Administrator of the EPA also is required, not earlier than the date of submission of his report to the Congress, to submit to the Federal Aviation Administration proposed regulations to provide such control and abatement of aircraft noise and sonic boom (including control and abatement through the exercise of any of the FAA's regulatory authority over air commerce or transportation or over aircraft or airport operations) as the Administrator of the EPA determines is necessary to protect the public health and welfare. In accordance with the foregoing requirement, the EPA published in the Federal Register on February 19, 1974, (39 FR 6142) a "Notice of Public Comment Period" containing a synopsis of the following rules it is considering in its efforts to achieve a satisfactory level of aircraft noise control and abatement for the protection of the public health and welfare. The proposed rules and the type of control which each rule would implement are as follows:

FLIGHT PROCEDURES NOISE CONTROL

(1) Takeoff procedures.

(2) Approach procedures.

(3) Minimum altitudes.

SOURCE NOISE CONTROL

(4) Retrofit/fleet noise level.

(5) Supersonic civil aircraft noise.

(6) Modifications to Part 36 of the Federal Aviation Regulations.

(7) Propeller driven small airplanes.

(8) Short haul aircraft.

AIRPORT OPERATIONS NOISE CONTROL

(9) Airport goals, mechanisms and procedures by which noise exposure of communities around airports can be limited to levels consistent with public health and welfare requirements.

This proposed rule is identified as the two-segment ILS noise abatement approach portion of item (2) above.

REFERENCES

In the development of this proposed rule the EPA evaluated several pertinent studies made by Federal agencies and private persons. Those studies are listed herein for the information of all interested persons and are available for examination at the FAA Rules Docket Office, GC-24, 800 Independence Avenue SW., Washington, D.C. 20590, or Environmental Protection Agency, Office of Noise Control Programs, Crystal Mall No. 2, 1921 Jefferson Davis Highway, Arlington, Va. 20460. Copies of those studies prepared by Government Agencies are also for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(1) "Operational Noise Abatement Procedures Designed to Limit the Amount of Disturbance Caused by Aircraft Taking Off, In Flight, or Landings", International Conference on the Reduction of Noise and Disturbance Caused by Civil Aircraft, London, November, 1966.

(2) "Note on Effect of Thrust and Altitude on Noise in Steep Approaches", NASA, LWP-283, September 14, 1966.

(3) "Flight Investigations of Methods for Implementing Noise Abatement Landing Approaches", "Progress of NASA Research Relating to Noise Alleviation of Large Subsonic Jet Aircraft", NASA SP-189, October 8-10, 1968.

(4) "Flight and Simulation Investigation of Methods for Implementing "Noise Abatement Landing Approaches", NASA TN D-5781, May 1970.

(5) "Noise Measurement for a Three-Engine Turbo-Fan Transport Airplane During Climbout and Landing Approach Operations", NASA TN D-6137, May 1971.

(6) "Measurement and Analysis of Noise from Four Aircraft During Approach and Departure Operations (727, KC-135, 707-320B, and DC-9)", FAA Report FAA-RD-71-84, September 1971.

(7) "Preliminary Results on Two-Segment Noise Abatement Studies", NASA TM X-62, 098, September 22, 1971.

(8) "Noise Reductions Achieved on a 720-023B Airfcraft Using a Two-Segment Approach", NASA CR-14417, December 1971.

(9) "Flight Evaluation of Two-Segment Approaches for Jet Transport Noise Abatement", American Airlines NASA Contractor Report, prepared under Contract No. NAS 2-6501, June 1973.

(10) "Aircraft Noise Reduction Technology", a report by the National Aeronautics and Space Administration to the Environmental Protection Agency for the Aircraft/Airport Noise Study, March 30, 1973.

(11) D. G. Denery, et al., "Status Report on NASA Two-Segment Approach Program", Paper 750594, presented at the SAE Air Transportation Meeting, Hartford, Conn., May 6-8, 1975.

(12) "Initial Flight and Simulator Evaluation of a Head-Up Display for Standard and Noise Abatement Visual Approaches", NASA, TM X-62, 187, February 1973.

(13) "NBAA Noise Abatement Program", National Business Aircraft Association, Report SR 67-12, June 1967.

(14) "Effects of Aircraft Operations on Community Noise", The Boeing Company, Commercial Airplane Group, June 1971.

(15) "A Comparison of Aircraft Approach Angles at Los Angeles and San Diego International Airports", City of Inglewood, California, June 1972.

(16) "Report on Aircraft/Airport Noise", Report of the Administrator of the Environmental Protection Agency in Compliance with Public Law 92-574, Senate Committee on Public Works, Serial No. 93-8, August 1973.

(17) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety", EPA Technical Document 550/9-74-004, March 1974.

(18) C. Bartel, L. C. Sutherland and L. Simpson, "Airport Noise Reduction Forecast", DOT Report DOT-TST-75-3, October 1974.

(19) J. E. Wesler, "Airport Noise Abatement—How Effective Can It Be?", *Sound and Vibration*, February 1975, pp. 16-21.

(20) R. H. Peterson and R. F. Burke, "Studies of Methods for Reducing Community Noise Around Airports", Nielsen Engineering and Research, Inc., Repart NEAR TR 73, prepared under contract No. NAS2-8190 for NASA/Ames, August 1974.

(21) G. D. Adams, "Let-Down Guidance System", FAA Report No. FAA-RD-70-6, April 1970.

(22) Joseph D. Blatt, letter to Steven Starley, Office of Noise Abatement and Control, Environmental Protection Agency, March 31, 1975.

(23) "Field Evaluation of 3000 Ft-Glideslope Intercept Program," Report No. FAA AT-72-1, March 1972.

(24) "Noise Measurement Evaluation of Takeoff and Approach, Profiles Optimized for Noise Abatement", NASA TN D-6244, March 1971.

(25) "Recommended Steps for Noise Abatement Approach", Informal Paper Submitted to EPA by ATA, received March 5, 1973.

(26) "Operations Analysis Including Monitoring, Enfofcement, Safety, and Cost," Report of Task Group 2, EPA NTID 73.3, 27 July 1973.

(27) "Approach and Landing Procedures for Noise Control", EPA Project Report, 1 July 1975.

REGULATORY HISTORY

Advance Notice of Proposed Rule Making (ANPRM) 74-12 (39 FR 11193), issued by the FAA on March 20, 1974, proposed regulations that would require aircraft landing at specified airports to use a two-segment ILS approach in order to reduce the noise impact on persons or property underlying the approach path. The proposed regulations would apply to all civil turbojet engine-powered airplanes conducting an ILS approach to over 100 ILS equipped runways located at 58 major airports in the U.S. The 55 airports, listed by state, that were identified in ANPRM 74-12 as being under consideration for implementation of the two-segment ILS noise abatement approach are repeated herein for the information of all interested persons.

Arizona (Sky Harbor (Phoenix), Tucson International);

California (Fresno Air Terminal, Hollywood-Burbank, Lindberg Field (San Diego), Long Beach, Los Angeles International, Oakland

International, Ontario International, Orange County (Santa Ana), San Jose Municipal San Francisco International);
Colorado (Stapleton International (Denver));
Connecticut (Bradley International (Windsor Locks));
Florida (Miami International, Tampa International);
Georgia (Atlanta Hartafield International);
Illinois (Chicago-Midway, Chicago-O'Hare International);
Iowa (Des Moines Municipal);
Kentucky-Ohio (Greater Cincinnati, Standiford Field (Louisville));
Louisiana (New Orleans International);
Maine (Bangor International, Portland International);
Massachusetts (Barnstable Municipal (Hyannis), Logan International (Boston));
Michigan (Detroit-Wayne County Metropolitan);
Minnesota (Minneapolis-St. Paul International);
Missouri (Lambert International (St. Louis));
Nebraska (Eppley Airfield (Omaha));
New Jersey (Atlantic City, Mercer County (Trenton), Morristown Municipal, Newark);
New York (Albany County, J. F. Kennedy International (New York), La Guardia (New York), Stewart (Newburgh), Westchester County (White Plains));
Ohio (Cleveland-Hopkins International, Dayton Municipal, Port Columbus International);
Oklahoma (Tulsa International, Will Rogers World (Oklahoma City));
Pennsylvania (Philadelphia International);
Rhode Island (T. F. Green (Providence));
Texas (Dallas-Ft. Worth Regional, Houston Intercontinental, San Antonio International);
Vermont (Burlington International);
Virginia (Dulles International (D.C.), Washington National (D.C.));
Washington (Lewiston Nez Perce, Seattle-Tacoma International); and
Wisconsin (Madison Municipal).

As in the case of other noise reduction proposals the comments received from persons residing in the vicinity of the airports concerned generally favored the proposal. The comments received from the American Association of Airport Executives (AAAE) also favored the proposal as an effective means of reducing the impact of flight operations in the approach area. In the opinion of one major West Coast airport operator the proposal would, if adopted, result in a very great cost benefit for the entire aviation industry. The operator stated that at his airport alone the potential liability for noise is in excess of $3 billion and that a reduction of the 90 EPNdB impact area in each approach zone from 18 square miles to 3.7 square miles is a very dramatic and helpful improvement that could be of great significance in that liability. It should be pointed out here that this estimate of the improvement obtainable with two-segment approach is over-optimistic; a 30 to 60% reduction in the 90 EPNdB impact area is more reasonable.

Conversely, the aircraft operators were generally opposed to the two-segment ILS approach. The Airline Pilots Association (ALPA and IFALPA), speaking for its members, stated that the two-segment ILS approach is not acceptable to the pilot community and as proposed, it leaves many questions still unresolved. As an optional method of reducing noise the pilot associations suggest quieter airplanes and retrofit. The Air Transport Association (ATA), on the other hand, speaking for its air carrier members, believes the benefits of a two-segment approach are overstated and the costs understated. Moreover, it believes the two-segment ILS approach is not yet adequately proved in service to introduce as a mandatory procedure.

The National Business Aircraft Association (NBAA), speaking on behalf of its members who use aircraft in the conduct of their business, stated that the two-segment ILS approach under IFR was not warranted at this time on the combined grounds of possible degradation of safety, small noise reduction potential, and high cost. The Aircraft Owners and Pilots Association (AOPA) were also opposed to the use of a two-segment approach and raised the issue of safety in regard to wake turbulence.

INTRODUCTION AND BASIS

Notwithstanding the foregoing comments in opposition to the two-segment ILS approach, the EPA believes that the use of a two-segment ILS approach for civil turbojet engine-powered airplanes can provide significant noise abatement within existing technology and pilot capability without degradation of safety. Since the FAA has not taken additional rule making action in regard to ANPRM 74-12, the EPA has submitted this recommended notice of proposed rule making for the consideration of the FAA Administrator under the mandates of Section 611 of the Federal Aviation Act of 1958 as amended. It is published herein for the information and comments of all interested persons. In the preparation of those comments it is to be noted that the EPA has also submitted separate noise reduction proposals for a two-segment ILS approach under visual conditions and for the use of reduced flap settings during the approach and landing. Both of these proposals apply to civil turbojet engine-powered airplanes and may be issued in separate rule making actions by the FAA under the provisions of section 611 of the Federal Aviation Act.

As stated in the previous notice (ANPRM 74-12), the two-segment ILS approach rule would require an ILS approach and landing to be conducted at those airports designated above. The approach would consist of a two-part descent with the upper segment glide angle flown at 5 to 6 degrees, depending on the type of aircraft, and with the second segment being flown using the existing ILS glide slope angle. Transition between upper and lower segments would be accomplished far enough from touchdown to allow stabilized conditions by 700 feet height above airport (HAA). Normally, the transition would begin approximately three nautical miles from runway threshold and be completed by two nautical miles from threshold. The regulation would allow a stable, controlled approach down to the Category I weather minimums in the standard instrument approach procedures issued under Part 97 of the Federal Aviation Regulations. The regulation would apply to all civil turbojet airplanes.

The two-segment noise abatement approach technique has been under development over the past several years and has progressed from the engineering and development phase to operational evaluation under actual operating conditions in the national airspace system. Several variations of the two-segment approach have been examined and one airline has adopted a two-segment approach procedure under visual conditions with conventional cockpit instrumentation.

The National Aeronautics and Space Administration (NASA) and FAA began research work on steep single-segment and two-segment approaches early in the 1960's. It appears that, of the various approach procedures studied, the two-segment approach holds the most promise for significant noise relief without impairment of safety, especially for turbojet engine-powered airplanes.

In 1966, the FAA installed an experimental dual ILS glide path system at Dulles Airport that provided guidance for a two-segment approach. The first and second segment approach angles were 5.5 and 2.5 degrees, respectively. The transition point from the first to the second segment occurred at approximately 1,140 ft altitude (827 ft HAA) and 3.1 nautical miles from threshold (827 ft/3.1 nm). With the use of these approach procedures, as reported in Reference (1), a noise reduction of 10 dB (overall sound pressure level) was observed at a distance of 26,000 feet (4.3 nm) from the runway threshold.

As shown in the NASA study reported in Reference (2), the noise-reduction due to steeper approaches is caused by two factors, the increased altitudes and the reduced power setting. For the four engine turbojet airplane used in that study, increasing the glide slope angle from 3 to 6 degrees reduced the overall sound pressure level under the flight track by 11.5 to 13.5 dB, of which approximately 7 dB was due to thrust reduction, the remainder being due to increased altitude.

NASA studies [References (3) and (4)] were also conducted to determine the requirements that would enable pilots to fly two-segment approach profiles with the precision common to conventional instrument landing approaches, without an increase in pilot workload. The approach profiles were evaluated by 11 pilots using a research four-engine turbojet powered airplane which had a flight director modified for two-segment approaches, an autothrottle, and both longitudinal and lateral directional stability augmentation. The studies concluded that a two-segment approach could be flown in the modified airplane with the same precision as a conventional one-segment instrument landing approach without a significant increase in pilot workload in the nearly ideal conditions of the tests.

The NASA tests reported in Reference (5) used a B-727 three-engine aircraft to fly 6/3 degrees two-segment approaches with transition starting at

1,115 ft/3.4 nm and completed by 722 ft/2.6 nm. Test results for these approaches indicated a noise reduction of 6 EPNdB at 3 nm and 10 EPNdB at 4.5 nm from threshold.

The FAA tests reported in Reference (6) studied nine approach noise abatement procedures for four different types of aircraft (B–727, KC–135, B–707–320B, and DC–9). The weather conditions for the tests varied considerably, a situation typical of actual line operations and, therefore, considerable scatter was evident in the data. Nevertheless, the report concluded that a "two-segment approach can achieve significant reductions in noise along the ground". Both procedures used an initial intercept height of 3,000 feet HAA and full flaps. The results of these tests also indicated a noise reduction averaging 10 to 14 EPNdB at 5 to 7 nautical miles from the runway threshold achieved by the use of the two-segment approach.

The studies reported in References (7) through (9) were conducted by NASA with American Airlines and Hydrospace Research Corporation as contractors. In these studies, two-segment approaches (6/2.5 degrees with transition at 400 ft/1.5 nm) were evaluated during 75 hours of flight in a B–720 four engine turbojet powered aircraft. A total of 28 pilots [2 project pilots and 26 guest pilots representing air carriers, FAA, ALPA, Allied Pilots Association (APA) and NASA] flew 234 two-segment approaches and 34 normal ILS approaches. All the tests were made during the daytime and in calm visual conditions.

The results of the tests were then presented to advisory committees, composed of individuals representing the airlines, airframe manufacturers, avionics suppliers, ATA, ALPA, and the Government, who agreed that the two-segment approach appeared operationally feasible, but warranted additional evalution under representative operational conditions in other types of aircraft. The committees recommended that one of the aircraft should be a B–727 because that type of aircraft accounts for the largest number of arrivals and departures and is used by more air carriers than any other type of aircraft. The committee also recommended tht another type of aircraft to be used in the tests should be a long-range type of aircraft such as the DC–8 or B–707 in order to extend the applicability to the data, as those aircraft differ significantly from the B–727 type of aircraft and have a larger noise footprint. In accordance with recommendations of the advisory committee, on-line flight evaluations were conducted with B–727 and DC–8 airplanes by United Airlines under contract to NASA, Reference (10).

The results of the UAL investigation and tests under this NASA contract were discussed at a recent status reporting session held by NASA (Reference 11). The key points presented are summarized below:

Two-Segment avionics have been developed and certified for airline use.
These avionics make use of contemporary ground navigational aids.
Crew procedures have been developed to be nearly identical to those in use by the air carriers.
Procedures and equipment are being evaluated under a wide variety of operational conditions: Usable under VFR & IFR conditions; Compatible with ATC (based on 727 tests); Normal ILS approach should be used during icing or in extreme tail winds.
Noise reduction has been measured.
System costs have been estimated.
Adaptability to the entire fleet has been shown.

The UAL researchers indicated that some problems and uncertainties remained unresolved. However, most of the factors identified as problems reside largely in the fact that two-segment approach has not been in widespread use, and they would be resolved as the necessary hardware and techniques were introduced into the air-carrier system.

The NASA tests reported in Reference (12) evaluated thirty-three approaches with a B–747 aircraft equipped with a cockpit "head-up" display Visual Approach Monitor (VAM) to aid the pilot in transitioning to a normal glide path from either a higher or a lower position. When compared with a standard 3 degrees approach, noise measurements made during those approaches again indicated considerable noise reductions. The reductions ranged from 6 EPNdB at 1 nm (from runway threshold) to 11 EPNdB at 5 nm for a 6/3 degree approach with transition at 660 ft/2.1 nm. Since a 6 degrees upper segment with 25 degrees flaps was slightly too steep for the 747 aircraft, use of 30 degree flaps and/or 5 degrees upper segment was recommended for future tests.

In addition to the studies conducted by NASA, EPA and the FAA, it is to be noted that air carriers, aircraft manufacturers and aeronautical associations have made studies regarding the feasibility of the two-segment approach, and in some cases, air carriers are using such approaches. For example, in a report dated 12 June 1967, the National Business Aircraft Association (NBAA) recommended the use of two-segment approaches in VFR weather conditions [Reference (13) listed above]. The Boeing Company in a report issued in June, 1971, Reference (14), investigated the reduction of noise by the use of the two-segment approach. For a 6/3 degrees approach with transition at 1,000 ft/3 nm, the Boeing report predicted a noise reduction ranging from 5.5 EPNdB at 3.5 nm to 9.5 EPNdB at 6 nm from threshold for its B–727 aircraft. Using electronic guidance and a transition (250 ft HAA) closer to the airport, the report also predicted a noise reduction ranging from 5.2 EPNdB at 1 nm to 13 EPNdB at 6 nm.

In 1967, National Airlines began using a two-segment approach at Miami International Airport with weather minimums of 3,000 feet ceiling (above ground) and five nautical miles visibility. In 1972, Pacific Southwest Airlines started to use a visual two-segment approach at airports used by that airline in California. In the same year, Air California also started to use a visual two-segment decelerating approach with B–737 type aircraft. The two-segment approach is also used by aircraft as large as a DC–8 at the San Diego International Airport. Most of the approaches at this airport are made over high terrain to the east of the runway which necessitates a steep approach. This approach may be either a 4.5 degrees single-segment [a non-standard Visual Approach Slope Indicator (VASI) at this angle provides a visual reference], or a two-segment approach with close-in transition, i.e., closer than 1 nm from runway threshold [Reference (15), above].

HEALTH AND WELFARE CONSIDERATIONS

The EPA Report to Congress on Aircraft and Airport Noise (Reference 16) indicated that large numbers of persons are subjected to levels of cumulative noise exposure due to aircraft operations which have a potential for producing a permanent impairment of hearing, interference with speech, and the generation of annoyance. That report estimated that in 1972, 16 million persons in the United States were subjected, due to aircraft operations, to a Day-Night Average Sound Level of 60 dB or greater. The Day-Night Average Sound Level, Ldn is the measure used by the EPA to express quantitatively the cumulative noise exposure of a population.

In formation presented in the Report to Congress (Reference 16) further indicated that, based on available data in the scientific literature, at Ldn values of 60 dB there is about a 2.5 percent occurrence of speech interference and about 23 percent of the exposed population is highly annoyed. Further, the EPA "Levels Document" (Reference 17) specifically identified two long-term average levels of noise exposure which should not be exceeded in order to protect the public health and welfare with an adequate margin of safety:

A Day-Night Level (Ldn) no greater than 55 dB, to protect against annoyance (including interference with speech communication);

An Equivalent Noise Level (Leq) no greater than 70 dB, to protect against significant adverse effects on hearing.

As pointed out in EPA's "Levels Document" the phrase "health and welfare" is taken to mean "complete physical, mental and social well-being and not merely the absence of disease and infirmity." It is clear from the foregoing data that noise due to aircraft operations represents a significant hazard to the health and welfare of millions of persons.

As set forth in the Report to Congress, the EPA has determined that, in order to protect the public health and welfare from aircraft noise, it is necessary that regulations be proposed to the FAA, for promulgation, in the eight subject areas of aircraft noise control listed earlier in this preamble.

The intent of those aircraft noise regulations is to produce a substantial reduction in the number of persons subjected to cumulative noise levels that are considered hazardous to their health and welfare, i.e., in the terms outlined in the foregoing paragraphs, to Ldn values of 55 dB or greater. Although theoretically

it might be considered desirable to reduce the day-night level due to aircraft noise to less than 55 dB for all persons, this is an unrealistic goal. As reported in the Levels Document, Reference 17, some 62 million persons in the United States are estimated to be exposed to Ldn 60 or greater due simply to vehicular traffic noise, and some 75 percent of the urban population are estimated to be exposed to ambient sound levels averaging Ldn 55 or greater. Present technology does not provide the capability of reducing cumulative noise due to aircraft operations to Ldn 55 for all persons without essentially destroying the national air-carrier system with all its attendant benefits to the public health and welfare. And even if aircraft noise were completely eliminated, many millions of persons still would be subjected to cumulative noise in excess of Ldn 55 due to other sources, mainly motor vehicles. Consequently, the EPA has a more modest and realistic goal, namely, to achieve the maximum reduction of cumulative noise due to aircraft operations that is technologically feasible to obtain without exorbitant costs. This is a position consistent with the requirements under the Noise Control Act that EPA, as well as the FAA, must meet in developing and promulgating noise control regulations which are within their respective areas of responsibility.

The EPA believes that the succeeding paragraphs quantify the environmental noise impact associated with aircraft and airport operations. This is done for both a defined baseline situation and for hypothetical stiuations in which it is assumed that one or more of the proposed aircraft noise regulations has been implemented. Comparison of the various sets of figures provides reasonable estimates of the noise reduction benefits to be gained by implementation of the various regulatory proposals for the control of aircraft noise.

ASSESSMENT OF NOISE IMPACT DUE TO AIRCRAFT OPERATIONS

This section deals with the health and welfare effects of environmental noise in terms of noise impact assessment which is a methodology for quantifying the extensiveness and severity of noise impact by a single number. An explanation of Noise Impact Methodology has been presented in various EPA publications, including Reference 27. In brief, this methodology comprises the following steps, for each specified environmental noise situation.

1. Determine (or estimate) the number of persons [P(i)] exposed to various ranges of Day-Night Equivalent Sound Level (Ldn) (e.g., 8.5 million persons between Ldn 60 and 65; 4.1 million between Ldn 65 and 70, etc.)

2. Assign to each Ldn range a Fractional Impact value [FI(i)] appropriate to the criterion under consideration. For purposes of this analysis, Ldn 55 is considered to represent a zero impact [FI=0], and Ldn 75 an impact of 1.0 [FI=1.0]. For Ldn 60–65, FI(1) is 0.375; for Ldn 65–70 FI(2) is 0.625; for Ldn 70–75, FI(3) is 0.875; etc.

3. For each range of Ldn values, determine the Noise Impact Contribution as the product of number of persons exposed and fractional impact, or

$$NI(i) = [FI(i)] \times [P(i)]$$

4. Calculate the Equivalent Noise Impact, ENI, as the sum of the individual Noise Impact contributions, or

$$ENI = \Sigma(i)\ [FI(i)]\ [P(i)].$$

This quantity may be interpreted as the equivalent number of persons "fully impacted" by the noise in the given situation. For residential land use affected by noise, the ENI value is the equivalent number of persons exposed to Ldn 75.

To obtain an estimate of the noise impact reduction resulting from some action, such as implementation of aircraft noise regulation, one would estimate the ENI values for the baseline condition and for the condition existing as a result of the action taken. The result could be expressed as a change in absolute value, or as a ratio, of the baseline Equivalent Noise Impact.

1. *Baseline Noise Impact—Aircraft Operations.* For this analysis, the baseline year of 1972 is used, mainly because the best available analyses of aircraft environmental noise have been premised on a 1972 baseline (References 18–20). Since the Noise Control Act was enacted into law in 1972, this baseline seems quite appropriate.

Of the three references listed, Reference 18, "Aircraft Noise Reduction Forecast", also known as the DOT "23-Airport Study", is the most widely known. It provides the basic data and point of departure for the others. In terms of the individual elements of EPA's proposed regulatory package, Reference 19, which extended the analysis of Reference 18 to cover additional options of noise reduction, seems most nearly oriented towards evaluation of the effects of the various options considered. Consequently, the calculations and results presented in this section are based largely on the data of Reference 19, with key data points confirmed by Reference 18. This latter report adduced that the 23 airports studied accommodated approximately half of the operations nationally of aircarrier jet aircraft. In terms of total impact, however, independent analyses by EPA and its consultants indicated that the population impacted by the operations to and from the 23 airports represented about 63% of the national impacted population. The results presented herein are based on that premise.

On the basis of the information discussed in the previous paragraphs, the EPA has estimated that for the 1972 baseline condition, the national population exposed to Ldn 65 or greater is 7,925,000 persons, and to Ldn 75 or greater is 792,000 persons. This corresponds to an Equivalent Noise Impact (ENI) (considering the population exposed to Ldn 65 or greater) of approximately 5,800,000 persons. By extrapolating the population data, a rough estimate can be obtained of the baseline population exposed to Ldn 60 or greaer. This rough estimate is about 25,000,000 persons; the corresponding ENI, considering the population exposed to Ldn 60 or greater, is about 12,000,000 persons.

2. *Noise Impact—Projected Fleet of the late 1970's, with several Noise Control Options Applied.* Summarized below are the estimates of the effects of several of the noise control options that would be undertaken if the regulations package proposed by EPA were promulgated and implemented. The results, for the late 1970's, are given in terms of Reduction in numbers of persons exposed to Day-Night Equivalent Levels of 65 or greater, and 75 or greater, respectively, and corresponding changes in Noise Impact, taking into account the change in aircarrier fleet mix and number of operations projected for that period.

The conditions considered are the following:

1978 Baseline Fleet (this reflects the introduction of new, less noisy aircraft that meet or better FAR 36 noise limits, and the phasing out of old, noisier aircraft).
Two-Segment Approach.
Noise Abatement Takeoff.
Quiet Nacelle (QN) also referred to as Sound Absorption Material (SAM) Retrofit.

The estimated data on numbers of people affected in various Ldn ranges, and the corresponding changes in Noise Impact, are tabulated below.

1978 BASELINE FLEET (RELATIVE TO 1972 BASELINE):

Population exposed to Ldn 65 or greater reduced by 2,520,000.
Population exposed to Ldn 75 or greater reduced by 267,000.
Severity and extensiveness of impact reduced by 33.6 percent.

TWO-SEGMENT APPROACH (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 570,000.
Population exposed to Ldn 75 or greater reduced by 54,000.
Severity and extensiveness of impact reduced by 10.4 percent.

NOISE ABATEMENT TAKEOFF (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 1,050,000.
Population exposed to Ldn 75 or greater reduced by 102,000.
Severity and extensiveness of impact reduced by 19.1 percent.

QUIET NACELLE RETROFIT (RELATIVE TO 1978 BASELINE):

Population exposed to Ldn 65 or greater reduced by 1,600,000.
Population exposed to Ldn 75 or greater reduced by 283,000.
Severity and extensiveness of impact reduced by 32.3 percent.

Although not all of the EPA proposed regulations for control of aircraft noise can be quantified directly in terms of the reduction in Equivalent Noise Impact, it is apparent from the foregoing discussion that a serious noise impact now exists, and prompt action is necessary to protect the public health and welfare. It also is apparent that, although the expected evolution of the fleet will reduce the noise impact significantly, implementation and promulgation of aircraft

noise regulations is a necessary and important part of the action that needs to be taken, and will yield substantial benefits in reducing the number of persons seriously impacted by noise.

COST CONSIDERATIONS

A two-segment ILS approach as proposed in the ANPRM 74-12 and in this notice would require an electronic equipment retrofit for all U.S. and foreign aircraft using the 58 airports in the United States having a noise sensitive area within 3 to 8 miles from the runways under the approach path. On the basis that the equipment required is a glide slope computer such as that used in the tests, the cost to be borne by the operator of the airplane has been estimated in ANPRM 74-12 and by NASA to be between $35,000 and $37,000 per airplane, including labor, interface equipment and wiring modifications, parts and spares. The corresponding total cost for the approximately 2000 airplanes of the U.S. air-carrier fleet would be about $70 million.

There are alternative means by which two-segment approach capability can be obtained, and these alternatives have a direct bearing on how much of the cost of the capability can be charged to noise abatement. One such alternative is to utilize electronic systems which include the glide slope computer function even though the system was not designed for the purpose of noise abatement. A second alternative is to utilize a single purpose system designed specifically for noise abatement. Finally, although it would offer no near term relief, another alternative should address incorporation of the two-segment approach capability into future aircraft guidance and air traffic control systems. In the interests of brevity, the three alternative methods of achieving a two-segment approach capability will be referred to as the multi-purpose system, single purpose system, and future system.

A multi-purpose system which includes necessary glide slope computer function does exist (Reference 11) since the FAA Western Region issued a Supplemental Type Certificate (STC SA2865WE dated June 7, 1974) which permits in-service use of the ANS-70A area navigation (RNAV) system to fly two-segment approaches. The cost implications for noise abatement which derive from the availability of an RNAV system that includes the glide slope computer function are not clear, e.g., if the RNAV system were installed for area navigation, then the incremental cost for two-segment approach capability would be modest. Even if the system were purchased because two-segment approaches are required and the RNAV capability is a desirable rather than a required item, only a portion of the system cost should be charged off against noise abatement, since it does not appear reasonable that a full-function RNAV system would be purchased only for its two-segment approach capability. Whereas it may be difficult to apportion the costs of a two-segment approach capable RNAV system to both noise abatement and air navigation, no such problem exists for the single-purpose system. Single purpose systems have been built and demonstrated by both the FAA and NASA.

In 1970, the National Aviation Facilities Experimental Center (NAFEC) of the FAA designed and demonstrated a "Let Down Guidance System" for two-segment approaches (Reference 21). The NAFEC unit is a small airborne analog computer which converts distance and barometric altitude inputs into vertical guidance signals which are presented on a conventional crosspointer instrument. In Reference 22, it is estimated that the current cost of an Airborne Glide Slope Computer of the NAFEC type would be between $2,000 and $5,000, assuming that the aircraft is equipped with DME and a satisfactory altimeter system. The actual cost of the installed system, within the range indicated here, would depend upon the sophistication desired and the number of units as well as the kind and amount of interface hardware and engineering required.

The previously-mentioned NASA estimate of $37,000 (Reference 11) concerned a two-segment approach system which was based on the NAFEC type of airborne computer but which incorporates the attributes necessary for certification for use in air-carrier aircraft. This estimate was based upon certain assumptions as to number of units manufactured and existing instrumentation on board the aircraft. A detailed review of the NASA estimates indicates some possible conservatism in the cost-influencing assumptions with respect to the need for new DME, cost-quantity relations, spares allowance, and installation labor. With different assumptions, the cost estimate could be significantly lower.

With respect to future systems such as the Microwave Landing System (MLS), a two-segment approach capability essentially exists within the current system design concepts. If the MLS were fully developed with an explicit two-segment approach capability, the costs chargeable against noise abatement would undoubtedly be considerably lower than those discussed here for ILS/DME systems.

In the case of air carrier aircraft, the time required to complete the installation of all needed guidance equipment, concurrent with scheduled aircraft down-time, is estimated to be approximately 3 to 4 years for a normal schedule, and approximately 2½ to 3 years for an accelerated schedule.

In respect to the ground facilities needed for the two-segment approach, it is anticipated as stated in ANPRM 74-12 that the cost of installing Distance Measuring Equipment (DME) would be approximately $50,000 each or a total of $5 million for the 100 DME installations located at the 58 airports having noise sensitive areas. However, the proposed DME installations would provide increased air navigational capabilities over and above that needed for noise abatement, and the DME costs should be apportioned among the several uses of the facility.

In the use of the two-segment approach it is anticipated that there would be a change in the operational costs for the aircraft involved. As previously explained, steeper approach procedures reduce the noise exposure area due to their inherently higher approach altitudes and required lower power settings. Economically, these lower power settings in the approach phase of a flight directly translate into fuel savings. On the other hand, higher approach altitudes may induce higher operational costs due to the effects of longer flight paths on—

(a) The decreased practical capacity of an airport;

(b) The increased delay times resulting from the dynamics of flight control at an airport; and

(c) The increased maneuver distances associated with the geometry of two-segment approaches.

It is estimated that the minimum increase, due to the above factors, for a 3,000 ft glide slope intercept procedure, is roughly $8.55 per flight [Reference 23, above]. However, countering that cost increase is reduced fuel consumption due to the lower power settings. For example, that fuel saving is estimated to be about 380 pounds (or some 58 gallons) per landing for a B-727 aircraft when compared to a conventional approach. On a per landing basis, saving 58 gallons of fuel at 25 cents per gallon translated into an operational cost savings of $14.50. This saving will continue to increase in accordance with the increase in cost of aviation fuel. Since per landing savings exceed the potential induced costs, adoption of the proposed procedures is economically reasonable in respect to the operators of the airplane to which the procedures would apply.

If a consistent intercept point for the visual two-segment approach is desired, it is necessary to have DME colocated with the ILS (ILS/DME). This proposed alteration to the Air Traffic Control (ATC) system will take time and money to implement. Of the over 100 ILS equipped runways to which this rule would apply, only seven now have colocated DME. It is estimated that it will cost approximately $50,000 per installation and the total cost to the FAA would be approximately 5 million dollars.

EXCEPTIONS

Under the provisions of this proposal, each person operating an aircraft to which the rule applies is expressly given final authority and responsibility for the safe operation of his airplane. Therefore, if he determines in the interest of safety that an approved instrument approach procedure other than a two-segment ILS approach should be used for a particular approach and landing, he may use the other procedure upon notice thereof to Air Traffic Control (ATC). The authority for alternative procedures is presently provided under the noise abatement runway system requirements of § 91.87(g) and would be equally appropriate for the two-segment noise abatement procedure requirements proposed herein.

NOISE ABATEMENT PROCEDURE CRITERIA

If the two-segment ILS approach is made mandatory, it is proposed to use the criteria set forth below for the use of such facilities. Accordingly, comments in regard to those criteria or other criteria deemed necessary or desirable for the use of a two-segment ILS approach may also be submitted by any interested person.

ENTRY AT 3000 FT/6 NM

(1) 6/3 degrees, transition at 930 ft/2.7 nm.

(2) 5/3 degrees, transition at 400 ft/1.1 nm.

ENTRY AT 3000 FT/7 NM

(1) 6/3 degrees, transition at 1,570 ft/4.5 nm.

(2) 5/3 degrees, transition at 1,200 ft/3.6 nm.

For the majority of the turbojet engine-powered airplanes under most conditions, the entry at 3,000 ft/6 nm would permit transition to be initiated at 1,000 ft. HAA and completed prior to 500 ft. HAA. However, for certain low drag airplanes, such as the DC-8, a 5 degrees upper segment is more appropriate than 6 degrees, and this would result in a very low transition altitude. The use of a 3,000 ft/7 nm entry point not only accommodates such low drag but also allows for unusual variations in tailwind, airspeed, wind sheer, or other factors that may make the 6 n.m. entry point marginal under some conditions.

Any two-segment ILS approach procedure approved by the Administrator for the use of a particular runway, would be established by him under procedures similar to those now used for the establishment of standard instrument approach procedures prescribed in Part 97. However, to distinguish the two-segment ILS approach procedures from the standard one-segment instrument approach procedures they would be placed in a separate Part 98, and portrayed on appropriate aeronautical charts, in addition to being published in the Airman's Information Manual.

THE PROPOSED RULE

In consideration of the foregoing, it is proposed to amend § 91.87 of the Federal Aviation Regulations as follows:

1. By striking the word "and" appearing at the end of paragraph (e)(1) and adding a semicolon and the word "and" at the end of paragraph (e)(2).

2. By adding a new subparagraph (e)(3) to read as follows:

§ 91.87 Operation at airports with operating control towers.

* * * * *

(e) *Approaches.* * * *

(3) A civil turbojet engine-powered airplane shall, when making an approach for a landing on a runway having an approved ILS two-segment approach procedure, prescribed in Part 98 of this Chapter, use that procedure unless he notifies ATC that he finds it necessary in the interest of safety to use a different procedure approved for an approach and landing on that runway.

These amendments are proposed under the authority of §§ 307, 313(a) 601, 603, and 611(c) of the Federal Aviation Act of 1958, as amended (49 U.S.C. §§ 1348, 1354(a), 1421, 1423, and 1431(c)); § 6(c) of the Department of Transportation Act (49 U.S.C. § 1655(c)); Title I, National Environmental Policy Act of 1969 (42 U.S.C. § 4321 et seq.); and Executive Order 11514, March 5, 1970.

Issued in Washington, D.C., on September 24, 1975.

RICHARD P. SKULLY,
Acting Director, Flight Standards Service.

[FR Doc.75-25811 Filed 9-24-75; 11:08 am]

federal register

THURSDAY, SEPTEMBER 25, 1975

PART III:

DEPARTMENT OF THE INTERIOR

Mining Enforcement and Safety Administration

■

HEALTH AND SAFETY STANDARDS

DEPARTMENT OF THE INTERIOR

Mining Enforcement and Safety Administration

[30 CFR Parts 55, 56, 57]

NEW AND REVISED HEALTH AND SAFETY STANDARDS

Notice of Proposed Rulemaking

Notice is hereby given that pursuant to the authority vested in the Secretary of the Interior under section 6 of the Federal Metal and Nonmetallic Mine Safety Act (30 U.S.C. 725) to develop, revise, and promulgate health and safety standards for the purpose of the protection of life, the promotion of health and safety, and the prevention of accidents in metal and nonmetal mines and mills, it is proposed to amend Parts 55, 56, and 57, Subchapter N, Chapter I, Title 30, Code of Federal Regulations by revising certain existing standards and adding certain new definitions, deleting or revising certain advisory standards and making them mandatory, and revising and adding new mandatory standards relating to fire prevention and control; air quality, ventilation, radiation, and physical agents; explosives; loading, hauling, dumping; use of equipment; travelways and escapeways; man hoisting; and gassy mines. These standards have been developed after consultation with the Federal Metal and Nonmetal Mine Safety Advisory Committee appointed pursuant to section 7 of the Act (30 U.S.C. 726).

Each standard which is to be a mandatory standard is so designated by the word "Mandatory" which appears at the beginning of the subsection in which the standard is prescribed. If the Federal Metal and Nonmetal Mine Safety Advisory Committee has recommended a mandatory standard, the standard is preceded by the word "Mandatory" and the letters "MNMSAC" in this manner "Mandatory. MNMSAC.—".

Subject to the provisions of subsection (e) of section 6 (30 U.S.C. 725(e)) and in accordance with the provisions of subsection (d) of section 6 of the Act (30 U.S.C. 725(d)) on or before the last day of the period herein fixed for the submission of written data, views, or arguments, any person who may be adversely affected by a proposed health and safety standard which is designated as a mandatory standard under subsections (b) and (c) of section 6 of the Act (30 U.S.C. 725 (b) and (c)), which has not been recommended as a mandatory standard by the Federal Metal and Nonmetal Mine Safety Advisory Committee, may file with the Secretary written objections stating the grounds for such objections and requesting a public hearing subject to the provisions of the Administrative Procedure Act (5 U.S.C. 556, 557) on such objections.

Pursuant to the provisions of subsection (e) of section 6 of the Act proposed mandatory standards which have been recommended by the Federal Metal and Nonmetal Mine Safety Advisory Committee are not subject to public hearings.

The Mining Enforcement and Safety Administration (MESA) and the Occupational Safety and Health Administration (OSHA) entered into a Memorandum of Understanding on April 22, 1974, to (1) clarify the jurisdictional responsibility of each agency and (2) provide a procedure for the coordination and adoption of safety standards which have significant application to working conditions in mines and mills subject to the Federal Metal and Nonmetallic Mine Safety Act. The Memorandum of Understanding was published in the Federal Register on Friday, July 26, 1974 (39 FR 27382–27384).

In accordance with the requirements of Article D1 (a) and (b) of the Memorandum, MESA personnel consulted with representatives of OSHA regarding those OSHA standards promulgated by the Secretary of Labor as of April 22, 1974 which may have a significant application to mines and mills subject to the Federal Metal and Nonmetallic Mine Safety Act, and are not covered by mandatory standards promulgated by the Secretary of the Interior prior to the effective date of the Memorandum. After such consultations held on June 13 and October 4, 1974, MESA submitted a list identifying those OSHA standards that are not covered by mandatory standards applicable to metal and nonmetal mining and milling operations other than coal and lignite mining.

The proposed new and revised mandatory standards published below were in the process of development by MESA prior to the effective date of the Memorandum of Understanding. While certain proposed standards may be construed as satisfying the intent of the Memorandum, these proposed standards were developed independently and prior to the Memorandum and are not modifications or revisions of OSHA standards in effect on April 22, 1974; therefore, a statement of the reasons for differences in wording between MESA and OSHA standards prescribed in Article D1(c)(2) of the Memorandum are not included in this notice of proposed rulemaking.

The Department of the Interior is proceeding with the development of mandatory standards in accordance with section 6 of the Federal Metal and Nonmetallic Mine Safety Act (30 U.S.C. 725).

Interested persons may submit, on or before November 6, 1975, written data, views, arguments, and objections, including a request for public hearing to the Administrator, Mining Enforcement and Safety Administration, Department of the Interior, Room 618, Ballston Tower No. 3, 4015 Wilson Boulevard, Arlington, Virginia 22203.

In consideration of the foregoing, it is proposed to amend Parts 55, 56, and 57 of Chapter I, Subchapter N, Title 30, Code of Federal Regulations, as set forth below.

It is hereby certified that the economic and inflationary impacts of these proposed regulations have been carefully evaluated in accordance with OMB Circular A–107.

Dated: September 19, 1975.

JACK W. CARLSON,
Assistant Secretary of the Interior.

PART 55—HEALTH AND SAFETY STANDARDS—METAL AND NONMETALLIC OPEN PIT MINES

A. Section 55.2 *Definitions*, is proposed to be amended as follows:

1. It is proposed to revise the definition of the "American Table of Distances" as follows: "American Table of Distances" means the "American Table of Distances for Storage of Explosives," as revised and approved for the Institute of Makers of Explosives—November 5, 1971, and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials 1973, NFPA No. 495, pages 59 through 62, with the exception of the definitions of the terms explosives, blasting agents, detonator, magazine and inhabited building as defined in Notes 2, 3, 4, 5, and 9 on page 61, and Note 14 on page 62, and which is hereby incorporated by reference and made a part hereof. The Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials NFPA No. 495—1973 may be examined in any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration or may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210. The terms explosives, blasting agents, detonator, magazine and inhabited building as used in this Part are defined elsewhere in this § 55.2.

2. It is proposed to revise the definition of "Blasting agents" as follows:

"Blasting agents" means any material or mixture, consisting of fuel and oxidizer intended for blasting and not otherwise defined as an explosive, and in which none of the ingredients is classified as an explosive either under this § 55.2, or classified as an explosive by the Department of Transportation in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof, provided that the finished product, as mixed and packaged for use or shipment, cannot be initiated by a No. 8 test detonator, or equivalent, when unconfined. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

3. It is proposed to revise the definition of "Blasting cap" as follows:

"Blasting cap" means a detonator which is initiated by a safety fuse.

4. It is proposed to revise the definition of "Blasting circuit" as follows:

"Blasting circuit" means the electrical circuit used to fire one or more electric blasting caps.

5. It is proposed to add a definition of "Booster" as follows:

"Booster" means any unit of explosive or blasting agent to be used in a charged hole for the purpose of perpetuating or intensifying the initial detonation.

6. It is proposed to revise the definition of "Capped fuse" as follows:

"Capped fuse" means a length of safety fuse to which a blasting cap has been attached.

7. It is proposed to add a definition of "Charged hole" as follows:

"Charged hole" means any hole containing explosives, on blasting agents with a primer.

8. It is proposed to add a definition of "Delay connector" as follows:

"Delay connector" (MNMSAC) means a nonelectric short interval delay device for use in delaying blasts which are initiated by detonating cord.

9. It is proposed to revise the definition of "Detonator" as follows:

"Detonator" means any device containing a detonating charge that is used to initiate detonation of an explosive and includes blasting caps, electric blasting caps, and nonelectric delay blasting caps.

10. It is proposed to revise the definition of "Detonating cord" as follows:

"Detonating cord" means a flexible cord containing a full core of high explosives.

11. It is proposed to revise the definition of "Electric blasting cap" as follows:

"Electric blasting cap" means a detonator designed for and capable of being initiated by means of an electric current.

12. It is proposed to revise the definition of "Explosive" as follows:

"Explosive" means either any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; or, any compound, mixture, or device that is classified as an explosive by the Department of Transportation in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof. Explosive shall not include any material or mixture that is defined as a blasting agent under this § 55.2. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

13. It is proposed to add a definition of "Fire-retardant wood" as follows:

"Fire-retardant wood" means wood meeting the requirements for a Class A Fire-Retardant Pressure-Impregnated wood as specified in NFPA No. 703, Standard for Fire-Retardant Treatments of Building Materials, Chapter I, in Volume 11 of the National Fire Code, 1975, pages 703–3 and 703–4, except that the second sentence in paragraph 141 shall read as follows: "The rating shall be certified by a nationally recognized testing laboratory and each piece of wood shall be so identified." Chapter 1 as revised herein is hereby incorporated by reference and made a part hereof. NFPA No. 703 is available for public inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the National Fire Protection Association International, 470 Atlantic Avenue, Boston, MA 02210.

14. It is proposed to add a new definition of "Inhabited building" as follows:

"Inhabited building" means a building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where persons are accustomed to assemble. An inhabited building also shall include any office, shop, mill, wash and changehouse, and any stationary equipment, structure, or facility used in the mine operations including ventilation fans, fan housings, mine openings, dams, and electrical transformer or substation installations.

15. It is proposed to add a definition of "Magazine" as follows:

"Magazine" means a facility that is suitable for the storage of explosives, blasting agents, or detonators.

16. It is proposed to add a definition of "Nonelectric delay blasting cap" as follows:

"Nonelectric delay blasting cap" (MNMSAC) means a detonator with an integral delay element and capable of being initiated by miniaturized detonating cord.

17. It is proposed to add a definition of "Portable fire extinguisher" as follows:

"Portable fire extinguisher":

(a) When used underground means a multipurpose dry-chemical extinguisher approved by the Underwriter's Laboratories, Inc., or Factory Mutual Research Corp., and having a minimum rating of 2A 10BC by the National Fire Protection Association.

(b) When used on the surface means an extinguisher approved by the National Fire Protection Association.

18. It is proposed to revise the definition of "Primer or Booster" as follows:

"Primer" means a unit, package, or cartridge of explosives containing a detonator or detonating cord which is used to transmit detonation to other explosives or blasting agents.

19. It is proposed to revise the definition of "Safety fuse" as follows:

"Safety fuse" means a flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps or a black powder charge.

20. It is proposed to add a definition of "Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" as follows:

"Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" (MNMSAC) means the Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents as revised and approved by the National Fire Protection Association and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials 1973, NFPA No. 495, pages 63 and 64, which is hereby incorporated by reference and made a part hereof. NFPA No. 495 may be examined at any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration and may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

21. It is proposed to add a definition of "Water gel" or "Slurry" (as applied to blasting) with a cross reference as follows:

"Slurry" (as applied to blasting). See "Water gel."

"Water gel" or "Slurry" (as applied to blasting) means an explosive or blasting agent containing substantial portions of water and other ingredients.

B. Section 55.4 *Fire Prevention and Control*, is proposed to be amended as follows:

22. It is proposed to revise advisory standard 55.4–24 and make it mandatory as follows:

55.4–24 *Mandatory.* MNMSAC. Fire extinguishers and fire suppression devices shall be:

(a) Of the appropriate type for the particular fire hazard involved.

(b) Adequate in number and size for the particular fire hazard involved.

(c) Replaced with a fully charged extinguisher or device, or recharged immediately, after any discharge is made from the extinguisher or device.

(d) Inspected, tested, and maintained at regular intervals according to the manufacturer's recommendations.

(e) Approved by the Underwriter's Laboratories, Inc., or other competent testing agency acceptable to the Mining Enforcement and Safety Administration.

23. It is proposed to renumber advisory standard 55.4–27 to 55.4–39.

24. It is proposed to add a new mandatory standard 55.4–28 as follows:

55.4–28 *Mandatory.* MNMSAC. Welding, cutting, arc welding or soldering shall be performed by a competent person.

25. It is proposed to add a new mandatory standard 55.4–35 as follows:

55.4–35 *Mandatory.* MNMSAC. Before any heat is applied to pipelines or containers which have contained flammable or combustible substances, they shall be drained, ventilated, thoroughly cleaned of residual substances and filled with either an inert gas or, where compatible, filed with water.

26. It is proposed to add a new mandatory standard 55.4–36 as follows:

55.4–36 *Mandatory.* Where welding or cutting with an arc or open flame or soldering with an open flame in an active working containing combustible or flammable materials, 2 portable fire extinguishers and a second person shall be present. Where welding or cutting with an arc or open flame or soldering with an open flame in other areas, 1 portable fire extinguisher shall be present.

27. It is proposed to renumber advisory standard 55.4–12 as follows:

55.4–49 MNMSAC. Combustible materials, grease, lubricants, or flammable liquids should not be allowed to accumulate where they can create a fire hazard.

C. Section 55.5 *Air quality and physical agents* is proposed to be amended as follows:

28. It is proposed to add a new center heading entitled "Air Quality" immediately below the section heading entitled "§ 55.5 Air quality and physical agents."

29. It is proposed to add a new center heading entitled "Physical Agents," preceding standard 55.5–50.

D. Section 55.6 *Explosives* is proposed to be amended as follows:

30. It is proposed to add a new center heading entitled "Miscellaneous" and reserve numbers 55.6–251 through 55.6–300, and to renumber and revise mandatory standard 55.6–6 as follows:

55.6–250 *Mandatory.* Smoking, matches, lighters, and open flames shall not be permitted within 50 feet of explosives, detonators, or blasting agents, except for the use of suitable devices for igniting safety fuse.

31. It is proposed to revoke mandatory standards 55.6–52 and 55.6–95.

32. It is proposed to revoke advisory standards 55.6–9 and 55.6–10, and to revise advisory standard 55.6–7 and make it mandatory as follows:

55.6–7 *Mandatory.* Explosives, detonators, and related materials such as safety fuse and detonating cord shall be:

(a) Stored in a manner to facilitate use of oldest stocks first.

(b) Stored according to brand and grade.

(c) Stored with their top sides up.

(d) Stacked not more than six (6) feet high.

33. It is proposed to add a new mandatory standard 55.6–11 as follows:

55.6–11 *Mandatory.* Containers of explosives and detonators shall be securely closed while being stored.

34. It is proposed to revoke advisory standard 55.6–55, and to revise advisory standard 55.6–48 and make it mandatory as follows:

55.6–48 *Mandatory.* Explosives and blasting agents shall be transported without undue delay, and over routes and at times that expose a minimum number of persons.

35. It is proposed to revoke advisory standard 55.6–49 MNMSAC.

36. It is proposed to revise mandatory standard 55.6–92 as follows:

55.6–92 *Mandatory.* Damaged or deteriorated explosives and blasting agents shall be destroyed in a safe manner under the supervision or instructions of the explosives manufacturer.

37. It is proposed to revised mandatory standard 55.6–97 as follows:

55.6–97 *Mandatory.* Primers shall be made up only at the time of charging and as close to the blasting area as conditions allow.

38. It is proposed to revise advisory standard 55.6–98 and make it mandatory as follows:

55.6–98 *Mandatory.* Primers:

(a) Containing a detonator shall be prepared with the detonator contained securely and completely within the explosive charge.

(b) Using detonating cord shall be prepared with the detonating cord threaded through, attached securely to, or otherwise in intimate contact with, the explosive charge.

39. It is proposed to revise mandatory standard 55.6–100 as follows:

55.6–100 *Mandatory.* MNMSAC. Tamping poles shall be of wood or other material acceptable to the Mining Enforcement and Safety Administration. Couplers of tamping poles shall be of nonsparking materials.

40. It is proposed to revise mandatory standard 55.6–101 as follows:

55.6–101 *Mandatory.* Tamping shall not be done directly on a primer.

41. It is proposed to revise advisory standard 55.6–106 and make it mandatory as follows:

55.6–106 *Mandatory.* Faces and muck piles shall be examined by a competent person for undetonated explosives or blasting agents after each blast. Any undetonated explosives or blasting agents found shall be disposed of before any other work is done in the immediate vicinity of such explosives.

42. It is proposed to revoke advisory standard 55.6–167 and to revise advisory standard 55.6–109 and make it mandatory as follows:

55.6–109 *Mandatory.* Safety fuse, igniter cord, and detonating cord shall not be used if they have been kinked, bent sharply, or otherwise damaged.

43. It is proposed to revise advisory standard 55.6–118 and make it mandatory as follows:

55.6–118 *Mandatory.* When using safety fuse, timing shall be such that all fuses are burning within the holes before any hole fires.

44. It is proposed to revise advisory standard 55.6–121 and make it mandatory as follows:

55.6–121 *Mandatory.* When blasting electrically, a blasting galvanometer, or other instruments that are specifically designed for testing blasting circuits, shall be used to test:

(a) Electric blasting caps for continuity prior to the addition of stemming to the borehole.

(b) Electric blasting cap series for resistance.

(c) Blasting lines for circuit continuity.

(d) Blasting circuits for resistance and continuity prior to connection to the power source.

45. It is proposed to revise advisory standard 55.6–132 and make it mandatory as follows:

55.6–132 *Mandatory.* MNMSAC. Delay connectors shall be treated and handled with the same safety precautions as detonators.

46. It is proposed to revise advisory standard 55.6–136 and make it mandatory as follows:

55.6–136 *Mandatory.* MNMSAC. Black powder shall not be used for blasting except when a desired result cannot be obtained with another type of explosive such as in quarrying certain types of dimension stone.

47. It is proposed to renumber mandatory standard 55.6–166 as follows:

55.6–115 *Mandatory.* MNMSAC. All detonating cord knots shall be tight and all connections shall be kept at right angles to the trunklines.

48. It is proposed to remember and revise advisory standard 55.6–169 and make it mandatory as follows:

55.6–138 *Mandatory.* Explosives or blasting agents shall not be loaded into drilled or sprung holes that will result in premature detonation from heat.

49. It is proposed to add a new mandatory standard 55.6–139 as follows:

55.6–139 *Mandatory.* Blasting areas shall not be reentered after firing until dangerous concentrations of smoke, dust, and fumes have been reduced to safe limits.

50. It is proposed to add new mandatory standard 55.6–140 as follows:

55.6–140 *Mandatory.* Electric blasting caps and blasting circuits shall be isolated from sources of static electricity and stray current, and from any extraneous electrical contact.

51. It is proposed to renumber and revise mandatory standard 55.6–170 as follows:

55.6–126 *Mandatory.* Electrical circuits shall be deenergized within 50 feet of boreholes containing electrical detonators and the power circuits shall not be reenergized until the shots are fired. Stray current tests shall be conducted, and the maximum stray current that shall be tolerated is 0.05 amperes.

52. It is proposed to add a new mandatory standard 55.6–93 as follows:

55.6–93 *Mandatory.* MNMSAC. Blast holes shall be cleaned before charging is begun.

E. Section 55.9 *Loading, hauling, dumping* is proposed to be amended as follows:

53. It is proposed to revise advisory standard 55.9–1 and make it mandatory as follows:

55.9–1 *Mandatory.* Mobile equipment that is to be used during a shift shall be inspected by the equipment operator before being placed in operation. Equipment defects affecting safety shall be reported to, and recorded by, the mine operator. The records shall be maintained at the mine or nearest mine office for at least 2 years from the date the defects are recorded. Such records shall be made available for inspection by the Secretary of the Interior or his duly authorized representative.

54. It is proposed to revise mandatory standard 55.9–9 as follows:

55.9–9 *Mandatory.* MNMSAC. Operators shall sound warning before starting trains and when trains approach crossings, other trains on adjacent tracks, persons, and any place where vision is obscured.

55. It is proposed to revise advisory standard 55.9–17 and make it mandatory as follows:

55.9–17 *Mandatory.* MNMSAC. Equipment operating speeds shall be consistent with conditions of roadways, grades, clearance, visibility, traffic, and the type of equipment used.

56. It is proposed to revise advisory standard 55.9–19 and make it mandatory as follows:

55.9–19 *Mandatory.* MNMSAC. Track guardrails, lead rails, and frogs shall be protected or blocked so as to prevent a person's foot from becoming wedged.

57. It is proposed to revoke advisory standard 55.9–21, MNMSAC.

58. It is proposed to add a new mandatory standard 55.9–26 as follows:

55.9–26 *Mandatory.* MNMSAC. A quick-close type air valve shall be provided on each piece of pneumatic-powered loading, hauling, and dumping equipment. The valve shall be closed except when the equipment is being operated.

59. It is proposed to revise advisory standard 55.9–34 and make it mandatory as follows:

55.9–34 *Mandatory.* Haulage equipment shall not be loaded in excess of bulk or rated weight capacity.

60. It is proposed to revise mandatory standard 55.9–37 as follows:

55.9–37 *Mandatory.* MNMSAC. Mobile equipment shall not be left unattended unless the brakes are set. Mobile equipment with wheels or tracks, when parked on a grade, shall be either blocked or turned into a bank or rib; and the bucket or blade lowered to the ground to prevent movement.

61. It is proposed to revoke mandatory standards 55.9–33 and 55.9–43, and to revise mandatory standard 55.9–40 as follows:

55.9–40 *Mandatory.* MNMSAC. Men shall not be transported:

(a) In or on dippers, forks, clamshells, beds of trucks unless special provisions are made for their safety, or buckets except shaft buckets.

(b) On top of loaded haulage equipment.

(c) Outside the cabs and beds of mobile equipment, except trains.

(d) Between cars of trains.

(e) In conveyances equipped with unloading devices unless means are provided to prevent accidental starting of the unloading mechanism.

62. It is proposed to revised advisory standard 55.9–42 and make it mandatory as follows:

55.9–42 *Mandatory.* MNMSAC. Rocker-bottom or bottom-dump rail cars shall be equipped with locking devices.

63. It is proposed to revoke advisory standard 55.9–86, and to revise advisory standard 55.9–49 and make it mandatory as follows:

55.9–49 *Mandatory.* MNMSAC. When in the dark or under conditions of limited visibility, all vehicles, carrying loads which project beyond the sides or more than four feet beyond the rear of the vehicles shall display a red light at the end of the projection; or in the light, a red flag not less than 12 inches square shall be displayed at the end of the projection.

64. It is proposed to revise advisory standard 55.9–53 and make it mandatory as follows:

55.9–53 *Mandatory.* MNMSAC. Water, debris or spilled material which create hazards to moving equipment shall be removed.

65. It is proposed to revise advisory standard 55.9–55 and make it mandatory as follows:

55.9–55 *Mandatory.* MNMSAC. Where there is evidence that the ground at a dumping place may fail to support the weight of a vehicle, loads shall be dumped back from the edge of the bank.

66. It is proposed to revise mandatory standard 55.9–64 as follows:

55.9–64 *Mandatory.* Facilities and installations used for loading and unloading muck and materials shall be constructed so that persons in attendance are not required to be in a hazardous location or position.

67. It is proposed to revise advisory standard 55.9–65 and make it mandatory as follows:

55.9–65 *Mandatory.* MNMSAC. Cars shall not be coupled, or uncoupled, manually from the inside of curves unless the railroad and cars are so designed to eliminate any hazard from manual coupling.

68. It is proposed to add a new mandatory standard 55.9–66 as follows:

55.9–66 *Mandatory.* MNMSAC. When a locomotive on one track is used to move equipment on a different track, a suitable chain or drawbar shall be used.

69. It is proposed to revoke advisory standard 55.9–84 and to make advisory standard 55.9–71 mandatory as follows:

55.9–71 *Mandatory.* MNMSAC. Traffic rules including speed, signals, and warning signs shall be standardized at each mine and posted.

70. It is proposed to revise mandatory standard 55.9–85 as follows:

55.9–85 *Mandatory.* MNMSAC. Tools, materials and equipment shall not be transported with persons in vehicles, rail cars, and other conveyances unless means have been provided to make such transportation safe.

71. It is proposed to renumber and revise advisory standard 55.9–4 and make it mandatory as follows:

55.9–87. *Mandatory.* MNMSAC. Heavy duty mobile equipment shall be provided with audible warning devices. When the operator of such equipment has an obstructed view to the rear, the equipment shall have either an automatic reverse signal alarm which is audible above the surrounding noise level or an observer to signal when it is safe to back up.

F. Section 55.19 *Man hoisting* is proposed to be amended as follows:

72. It is proposed to revoke advisory standard 55.19–23, and to revise advisory standard 55.19–22 and make it mandatory as follows:

55.19–22 *Mandatory.* MNMSAC. The end of the rope at the drum shall make at least one full turn on the drum shaft, or a spoke of the drum in the case of a free drum, and shall be fastened securely by means of rope clips or clamps. There shall be three full turns of cable or rope on the hoisting drum when the cable or rope is extended to its maximum working length. This standard does not apply to friction hoists.

73. It is proposed to revise advisory standard 55.19–63 and make it mandatory as follows:

55.19–63 *Mandatory.* MNMSAC. Only authorized persons shall be in hoist rooms.

74. It is proposed to revise advisory standard 55.19–78 and make it mandatory as follows:

55.19–78 *Mandatory.* All buckets shall be stopped after being raised about 3 feet above the shaft bottom. A bucket shall be stabilized before a hoisting signal is given to continue hoisting the bucket to the crosshead. After a hoisting signal is given, hoisting to the crosshead shall be at the minimum speed. The signaling device shall be attended constantly until a bucket reaches the guides. When persons are hoisted, the signaling devices shall be attended until the crosshead has been engaged.

75. It is proposed to revise advisory standard 55.19–95 and make it mandatory as follows:

55.19–95 *Mandatory.* MNMSAC. Hoisting signal devices shall be positioned within easy reach of persons on the shaft bottom or constantly attended by a person stationed on the lower deck of the sinking platform.

76. It is proposed to revise advisory standard 55.19–103 and make it mandatory as follows:

55.19–103 *Mandatory.* MNMSAC. Dumping facilities and loading pockets shall be constructed so as to minimize spillage into the shaft.

G. Section 55.20 *Miscellaneous* is proposed to be amended as follows:

77. It is proposed to revise advisory standard 55.20–8 and make it mandatory as follows:

55.20–8 *Mandatory.* At least 1 toilet within 10 minutes accessibility shall be provided for each 10 male workers or less. At least 1 toilet within 10 minutes accessibility shall be provided for each 10 female workers or less. Toilets for male and female workers shall be separate, properly supplied, clean and sanitary. Toilets shall be chemical types, water closets, or equivalent facilities approved by the District Manager, Metal and Nonmetal Mine Health and Safety, for the district in which the mine is located. Such facilities shall be protected from the elements and serviced when full, but not less frequently than weekly. Toilet waste shall be disposed of in accordance with State and local laws and regulations.

PART 56—HEALTH AND SAFETY STANDARDS—SAND, GRAVEL, AND CRUSHED STONE OPERATIONS

H. Section 56.2 *Definitions* proposed to be amended as follows:

1. It is proposed to revise the definition of the "American Table of Distances" as follows:

"American Table of Distances" means the "American Table of Distances for Storage of Explosives", as revised and approved by the Institute of Makers of Explosives—November 5, 1971, and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials 1973, NFPA No. 495, pages 59 through 62, with the exception of the definitions of the terms explosives, blasting agents, detonator, magazine and inhabited building as defined in Notes 2, 3, 4, 5, and 9 on page 61, and Note 14 on page 62, and which is hereby incorporated by reference and made a part hereof. The Code for the Manufacture, Transportation, Storage and Use of Explosive Materials NFPA No. 495—1973 may be examined in any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration or may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 02210. The terms explosives, blasting agents, detonator, magazine and inhabited building as used in

this Part are defined elsewhere in this Section 56.2.

2. It is proposed to revise the definition of "Blasting agents" as follows:

"Blasting agents" means any material or mixture, consisting of fuel and oxidizer intended for blasting and not otherwise defined as an explosive, and in which none of the ingredients is classified as an explosive either under this § 56.2, or classified as an explosive by the Department of Transportation in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof, provided that the finished product, as mixed and packaged for use or shipment, cannot be initiated by a No. 8 test detonator, or equivalent, when unconfined. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

3. It is proposed to revise the definition of "Blasting cap" as follows:

"Blasting cap" means a detonator which is initiated by a safety fuse.

4. It is proposed to revise the definition of "Blasting circuit" as follows:

"Blasting circuit" means the electrical circuit used to fire one or more electric blasting caps.

5. It is proposed to add a definition of "Booster" as follows:

"Booster" means any unit of explosive or blasting agent to be used in a charged hole for the purpose of perpetuating or intensifying the initial detonation.

6. It is proposed to revise the definition of "Capped fuse" as follows:

"Capped fuse" means a length of safety fuse to which a blasting cap has been attached.

7. It is proposed to add a definition of "Charged hole" as follows:

"Charged hole" means any hole containing explosives, or blasting agents with a primer.

8. It is proposed to add a definition of "Delay connector" as follows:

"Delay connector" (MNMSAC) means a nonelectric short interval delay device for use in delaying blasts which are initiated by detonating cord.

9. It is proposed to revise the definition of "Detonator" as follows:

"Detonator" means any device containing a detonating charge that is used to initiate detonation of an explosive and includes blasting caps, electric blasting caps, and nonelectric delay blasting caps.

10. It is proposed to revise the definition of "Detonating cord" as follows:

"Detonating cord" means a flexible cord containing a full cord of high explosives.

11. It is proposed to revise the definition of "Electric blasting cap" as follows:

"Electric blasting cap" means a detonator designed for and capable of being initiated by means of an electric current.

12. It is proposed to revise the definition of "Explosive" as follows:

"Explosive" means either any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; or, any compound, mixture, or device that is classified as an explosive by the Department of Transportation, in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof. Explosive shall not include any material or mixture that is defined as a blasting agent under this § 56.2. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

13. It is proposed to add a definition of "Fire-retardant wood" as follows:

"Fire-retardant wood" means wood meeting the requirements for a Class A Fire-Retardant Pressure-Impregnated wood as specified in NFPA No. 703, Standard for Fire-Retardant Treatments of Building Materials, Chapter 1, in Volume 11 of the National Fire Code, 1975, pages 703–3 and 703–4, except that the second sentence in paragraph 141 shall read as follows: "The rating shall be certified by a nationally recognized testing laboratory and each piece of wood shall be so identified." Chapter 1 as revised herein is hereby incorporated by reference and made a part hereof. NFPA No. 703 is available for public inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the National Fire Protection Association International, 470 Atlantic Avenue, Boston, MA 02210.

14. It is proposed to add a new definition of "Inhabited building" as follows:

"Inhabited building" means a building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where persons are accustomed to assemble. An inhabited building also shall include any office, shop, mill, wash and changehouse, and any stationary equipment, structure, or facility used in the mine operation including ventilation fans, fan housings, mine openings, dams, and electrical transformer or substation installations.

15. It is proposed to add a definition of "Magazine" as follows:

"Magazine" means a facility that is suitable for the storage of explosives, blasting agents, or detonators.

16. It is proposed to add a definition of "Nonelectric delay blasting cap" as follows:

"Nonelectric delay blasting cap" (MNMSAC) means a detonator with an integral delay element and capable of being initiated by miniaturized detonating cord.

17. It is proposed to add a definition of "Portable fire extinguisher" as follows:

"Portable fire extinguisher":

(a) When used underground means a multipurpose dry-chemical extinguisher approved by the Underwriters Laboratories, Inc., or Factory Mutual Research Corp., and having a minimum rating of 2A 10BC by the National Fire Protection Association.

(b) When used on the surface means an extinguisher approved by the National Fire Protection Association.

18. It is proposed to revise the definition of "Primer or Booster" as follows:

"Primer" means a unit, package, or cartridge of explosives containing a detonator or detonating cord which is used to transmit detonation to other explosives or blasting agents.

19. It is proposed to revise the definition of "Safety fuse" as follows:

"Safety fuse" means a flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps or a black powder charge.

20. It is proposed to add a definition of "Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" as follows:

"Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" (MNMSAC) means the Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents as revised and approved by the National Fire Protection Association and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosive materials 1973, NFPA No. 495, pages 63 and 64, which is hereby incorporated by reference and made a part hereof. NFPA No. 495 may be examined at any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration and may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

21. It is proposed to add a definition of "Water gel" or "Slurry" (as applied to blasting) with a cross reference as follows:

"Slurry" (as applied to blasting). See "Water gel."

"Water gel" or "Slurry" (as applied to blasting) means an explosive or blasting agent containing substantial portions of water and other ingredients.

I. Section 56.4. *Fire Prevention and Control* is proposed to be amended as follows:

22. It is proposed to revise advisory standard 56.4–24 and make it mandatory as follows:

56.4–24 *Mandatory.* MNMSAC. Fire extinguishers and fire suppression devices shall be:

(a) Of the appropriate type for the particular fire hazard involved.

(b) Adequate in number and size for the particular fire hazard involved.

(c) Replaced with a fully charged extinguisher or device, or recharged immediately, after any discharge is made from the extinguisher or device.

(d) Inspected, tested, and maintained at regular intervals according to the manufacturer's recommendations.

(e) Approved by the Underwriter's Laboratories, Inc., or other competent testing agency acceptable to the Mining Enforcement and Safety Administration.

23. It is proposed to renumber advisory standard 56.4–27 to 56.4–39.

24. It is proposed to add a new mandatory standard 56.4–28 as follows:

56.4–28 *Mandatory.* MNMSAC. Welding, cutting, arc welding or soldering shall be performed by a competent person.

25. It is proposed to add a new mandatory standard 56.4–35 as follows:

56.4–35 *Mandatory.* MNMSAC. Before any heat is applied to pipelines or containers which have contained flammable or combustible substances, they shall be drained, ventilated, thoroughly cleaned of residual substances and filled with either an inert gas or, where compatible, filled with water.

26. It is proposed to add a new mandatory standard 56.4–36 as follows:

56.4–36 *Mandatory.* Where welding or cutting with an arc or open flame or soldering with an open flame in an active working containing combustible or flammable materials, 2 portable fire extinguishers and a second person shall be present. Where welding or cutting with an arc or open flame or soldering with an open flame in other areas, 1 portable fire extinguisher shall be present.

27. It is proposed to renumber advisory standard 56.4–12 as follows:

56.4–49 MNMSAC. Combustible materials, grease, lubricants, or flammable liquids should not be allowed to accumulate where they can create a fire hazard.

J. Section 56.5 *Air quality and physical agents* is proposed to be amended as follows:

28. It is proposed to add a new center heading entitled "Air Quality" immediately below the section heading entitled "§ 56.5 Air quality and physical agents."

29. It is proposed to add a new center heading entitled "Physical Agents," preceding standard 56.5–50.

K. Section 56.6 *Explosives* is proposed to be amended as follows:

30. It is proposed to add a new center heading entitled "Miscellaneous" and reserve numbers 56.6–251 through 56.6–300, and to renumber and revise mandatory standards 56.6–52 and 56.6X95.

56.6–250 *Mandatory.* Smoking, matches, lighters, and open flames shall not be permitted within 50 feet of explosives, detonators, or blasting agents, except for the use of suitable devices for igniting safety fuse.

31. It is proposed to revoke mandatory standards 56.6–52 and 56.6–95.

32. It is proposed to revoke advisory standards 56.6–9 and 56.6–10, and to revise advisory standard 56.6–7 and make it mandatory as follows:

56.6–7 *Mandatory.* Explosives, detonators, and related materials such as safety fuse and detonating cord shall be:

(a) Stored in a manner to facilitate use of oldest stocks first.

(b) Stored according to brand and grade.

(c) Stored with their top sides up.

(d) Stacked not more than six (6) feet high.

33. It is proposed to add a new mandatory standard 56.6–11 as follows:

56.6–11 *Mandatory.* Containers of explosives and detonators shall be securely closed while being stored.

34. It is proposed to revoke advisory standard 56.6–55, and to revise advisory standard 56.6–48 and make it mandatory as follows:

56.6–48 *Mandatory.* Explosives and blasting agents shall be transported without undue delay, and over routes and at times that expose a minimum number of persons.

35. It is proposed to revoke advisory standard 56.6–49. MNMSAC.

36. It is proposed to revise mandatory standard 56.6–92 as follows:

56.6–92 *Mandatory.* Damaged or deteriorated explosives and blasting agents shall be destroyed in a safe manner under the supervision or instructions of the explosives manufacturer.

37. It is proposed to revise mandatory standard 56.6–97 as follows:

56.6–97 *Mandatory.* Primers shall be made up only at the time of charging and as close to the blasting area as conditions allow.

38. It is proposed to revise advisory standard 56.6–98 and make it mandatory as follows:

56.6–98 *Mandatory.* Primers:

(a) containing a detonator shall be prepared with the detonator contained securely and completely within the explosive charge.

(b) Using detonating cord shall be prepared with the detonating cord threaded through, attached securely to, or otherwise in intimate contact with, the explosive charge.

39. It is proposed to revise mandatory standard 56.6–100 as follows:

56.6–100 *Mandatory.* MNMSAC. Tamping poles shall be of wood or other material acceptable to the Mining Enforcement and Safety Administration. Couplers of tamping poles shall be of nonsparking materials.

40. It is proposed to revise mandatory standard 56.6–101 as follows:

56.6–101 *Mandatory.* Tamping shall not be done directly on a primer.

41. It is proposed to revise advisory standard 56.6–106 and make it mandatory as follows:

56.6–106 *Mandatory.* Faces and muck piles shall be examined by a competent person for undetonated explosives or blasting agents after each blast. Any undetonated explosives or blasting agents found shall be disposed of before any other work is done in the immediate vicinity of such explosives.

42. It is proposed to revoke advisory standard 56.6–167 and to revise advisory standard 56.6–109 and make it mandatory as follows:

56.6–109 *Mandatory.* Safety fuse, igniter cord, and detonating cord shall not be used if they have been kinked, bent sharply, or otherwise damaged.

43. It is proposed to revise advisory standard 56.6–118 and make it mandatory as follows:

56.6–118 *Mandatory.* When using safety fuse, timing shall be such that all fuses are burning within the holes before any hole fires.

44. It is proposed to revise advisory standard 56.6–121 and make it mandatory as follows:

56.6–121 *Mandatory.* When blasting electrically a blasting galvanometer, or other instruments that are specifically designed for testing blasting circuits, shall be used to test:

(a) Electric blasting caps for continuity prior to the addition of stemming to the borehole.

(b) Electic blasting cap series for resistance.

(c) Blasting lines for circuit continuity.

(d) Blasting circiuts for resistance and continuity prior to connection to the power source.

45. It is proposed to revise advisory standard 56.6–132 and make it mandatory as follows:

56.6–132 *Mandatory.* MNMSAC. Delay connectors shall be treated and handled with the same safety precautions as detonators.

46. It is proposed to revise advisory standard 56.6–136 and make it mandatory as follows:

56.6–136 *Mandatory.* MNMSAC. Black powder shall not be used for blasting except when a desired result cannot be obtained with another type of explosive such as in quarrying certain types of dimension stone.

47. It is proposed to renumber mandatory standard 56.6–166 as follows:

56.6–115 *Mandatory.* MNMSAC. All detonating cord knots shall be tight and all connections shall be kept at right angles to the trunklines.

48. It is proposed to renumber and revise advisory standard 56.6–169 and make it mandatory as follows:

56.6–138 *Mandatory.* Explosives or blasting agents shall not be oladed into drilled or sprung holes that will result in premature detonation from heat.

49. It is proposed to add a new mandatory standard 56.6–139 as follows:

56.6–139 *Mandatory.* Blasting areas shall not be reentered after firing until dangerous concentrations of smoke, dust, and fumes have been reduced to safe limits.

50. It is proposed to add a new mandatory standard 56.6–140 as follows:

56.6–140 *Mandatory.* Electrical blasting caps and blasting circuits shall be isolated from sources of static electricity and stray currents, and from any extraneous electrical contact.

51. It is proposed to renumber and revise mandatory standard 56.6–170 as follows:

56.6–126 *Mandatory.* Electrical circuits shall be deenergized within 50 feet of boreholes containing electrical detonators and the power circuits shall not be reenergized until the shots are fired. Stray current tests shall be conducted, and the maximum stray current that shall be tolerated is 0.05 amperes.

52. It is proposed to add a new mandatory standard 56.6–93 as follows:

56.6–93 *Mandatory.* MNMSAC. Blast holes shall be cleaned before charging is begun.

L. Section 56.9 *Loading, hauling, dumping* is amended as follows:

dumping is proposed to be amended as follows:

53. It is proposed to revise advisory standard 56.9–1 and make it mandatory as follows:

56.9–1 *Mandatory.* Mobile equipment that is to be used during a shift shall be inspected by the equipment operator before being placed in operation. Equipment defects affecting safety shall be reported to, and recorded by, the mine operator. The records shall be maintained at the mine or nearest mine office for at least 2 years from the date the defects are recorded. Such records shall be made available for inspection by the Secretary of the Interior or his duly authorized representative.

54. It is proposed to revise mandatory standard 56.9–9 as follows:

56.9–9 *Mandatory.* MNMSAC. Operators shall sound warning before starting trains and when trains approach crossings, other trains on adjacent tracks, persons, and any place where vision is obscured.

55. It is proposed to revise advisory standard 56.9–17 and make it mandatory as follows:

56.9–17 *Mandatory.* MNMSAC. Equipment operating speeds shall be consistent with conditions of roadways, grades, clearance, visibility, traffic, and the type of equipment used.

56. It is proposed to revise advisory standard 56.9–19 and make it mandatory as follows:

56.9–19 *Mandatory.* MNMSAC. Track guardrails, lead rails, and frogs shall be protected or blocked so as to prevent a person's foot from becoming wedged.

57. It is proposed to revoke advisory standard 56.9–21. MNMSAC.

58. It is proposed to add a new mandatory standard 56.9–26 as follows:

56.9–26 *Mandatory.* MNMSAC. A quick-close type air valve shall be provided on each piece of pneumatic-powered loading, hauling, and dumping equipment. The valve shall be closed except when the equipment is being operated.

59. It is proposed to revise advisory standard 56.9–34 and make it mandatory as follows:

56.9–34 *Mandatory.* Haulage equipment shall not be loaded in excess of bulk or rated weight capacity.

60. It is proposed to revise mandatory standard 56.9–37 as follows:

56.9–37 *Mandatory.* MNMSAC. Mobile equipment shall not be left unattended unless the brakes are set. Mobile equipment with wheels or tracks, when parked on a grade, shall be either blocked or turned into a bank or rib; and the bucket or blade lowered to the ground to prevent movement.

61. It is proposed to revoke mandatory standards 56.9–33 and 56.9–43, and to revise mandatory standard 56.9–40 as follows:

56.9–40 *Mandatory.* MNMSAC. Men shall not be transported:

(a) In or on dippers, forks, clamshells, beds of trucks unless special provisions are made for their safety, or buckets except shaft buckets.

(b) On top of loaded haulage equipment.

(c) Outside the cabs and beds of mobile equipment, except trains.

(d) Between cars of trains.

(e) In conveyances equipped with unloading devices unless means are provided to prevent accidental starting of the unloading mechanism.

62. It is proposed to revise advisory standard 56.9–42 and make it mandatory as follows:

56.9–42 *Mandatory.* MNMSAC. Rocker-bottom or bottom-dump rail cars shall be equipped with locking devices.

63. It is proposed to revoke advisory standard 56.9–86, and to revise advisory standard 56.9–49 and make it mandatory as follows:

56.9–49 *Mandatory. MNMSAC.* When in the dark or under conditions of limited visibility, all vehicles carrying loads which project beyond the sides or more than four feet beyond the rear of the vehicles shall display a red light at the end of the projection; or in the light, a red flag not less than 12 inches square shall be displayed at the end of the projection.

64. It is proposed to revise advisory standard 56.9–53 and make it mandatory as follows:

56.9–53 *Mandatory.* MNMSAC. Water, debris or spilled material which create hazards to moving equipment shall be removed.

65. It is proposed to revise advisory standard 56.9–55 and make it mandatory as follows:

56.9–55 *Mandatory.* MNMSAC. Where there is evidence that the ground at a dumping place may fail to support the weight of a vehicle, loads shall be dumped back from the edge of the bank.

66. It is proposed to revised mandatory standard 56.9–64 as follows:

56.9–64 *Mandatory.* Facilities and installations used for loading and unloading muck and materials shall be constructed so that persons in attendance are not required to be in a hazardous location or position.

67. It is proposed to revise advisory standard 56.9–65 and make it mandatory as follows:

56.9–65 *Mandatory.* MNMSAC. Cars shall not be coupled, or uncoupled, manually from the inside of curves unless the railroad and cars are so designed to eliminate any hazard from manual coupling.

68. It is proposed to add a new mandatory standard 56.9–66 as follows:

56.9–66 *Mandatory.* MNMSAC. When a locomotive on one track is used to move equipment on a different track, a suitable chain or drawbar shall be used.

69. It is proposed to revoke advisory standard 56.9–84 and to make advisory standard 56.9–71 mandatory as follows:

56.9–71 *Mandatory.* MNMSAC. Traffic rules including speed, signals, and warning signs shall be standardized at each mine and posted.

70. It is proposed to revise mandatory standard 56.9–85 as follows:

56.9–85 *Mandatory.* MNMSAC. Tools, materials and equipment shall not be transported with persons in vehicles, rail cars, and other conveyances unless means have been provided to make such transportation safe.

71. It is proposed to renumber and revise advisory standard 56.9–4 and make it mandatory as follows:

56.9–87 *Mandatory.* MNMSAC. Heavy duty mobile equipment shall be provided with audible warning devices. When the operator of such equipment has an obstructed view to the rear, the equipment shall have either an automatic reverse signal alarm which is audible above the surrounding noise level or an observer to signal when it is safe to back up.

M. Section 56.19 *Man hoisting* is proposed to be amended as follows:

72. It is proposed to revoke advisory standard 56.19–23, and to revise advisory standard 56.19–22 and make it mandatory as follows:

56.19–22 *Mandatory.* MNMSAC. The end of the rope at the drum shall make at least one full turn on the drum shaft, or a spoke of the drum in the case of a free drum, and shall be fastened securely by means of rope clips or clamps. There shall be three full turns of cable or rope on the hoisting drum when the cable or rope is extended to its maximum working length. This standard does not apply to friction hoists.

73. It is proposed to revise advisory standard 56.19–63 and make it mandatory as follows:

56.19–63 *Mandatory.* MNMSAC. Only authorized persons shall be in hoist rooms.

74. It is proposed to revise advisory standard 56.19–78 and make it mandatory as follows:

56.19–78 *Mandatory.* All buckets shall be stopped after being raised about 3 feet above the shaft bottom. A bucket shall be stabilized before a hoisting signal is given to continue hoisting the bucket to the crosshead. After a hoisting signal is given, hoisting to the crosshead shall be at the minimum speed. The signaling device shall be attended constantly until a bucket reaches the guides. When persons are hoisted, the signaling devices shall be attended until the crosshead has been engaged.

75. It is proposed to revise advisory standard 56.19–95 and make it mandatory as follows:

56.19–95 *Mandatory,* MNMSAC. Hoisting signal devices shall be positioned within easy reach of persons on the shaft bottom or constantly attended by a person stationed on the lower deck of the sinking platform.

76. It is proposed to revise advisory standard 56.19–103 and make it mandatory as follows:

56.19–103 *Mandatory.* MNMSAC. Dumping facilities and loading pockets shall be constructed so as to minimize spillage into the shaft.

N. Section 56.20 *Miscellaneous* is proposed to be amended as follows:

77. It is proposed to revise advisory standard 56.20–8 and make it mandatory as follows:

56.20–8 *Mandatory.* At least 1 toilet within 10 minutes accessibility shall be provided for each 10 male workers or less. At least 1 toilet within 10 minutes accessibility shall be provided for each 10 female workers or less. Toilets for male and female workers shall be separate, properly supplied, clean and sanitary. Toilets shall be chemical types, water closets, or equivalent facilities approved by the District Manager, Metal and Nonmetal Mine Health and Safety, for the district in which the mine is located. Such facilities shall be protected from the elements and serviced when full, but not less frequently than weekly. Toilet waste shall be disposed of in accordance with State and local laws and regulations.

PART 57—HEALTH AND SAFETY STANDARDS—METAL AND NONMETALLIC UNDERGROUND MINES

O. Section 57.2 *Definitions* is proposed to be amended as follows:

1. It is proposed to revise the definition of the "American Table of Distances" as follows:

"American Table of Distances" means the "American Table of Distances for Storage of Explosives", as revised and approved by the Institute of Makers of Explosives—November 5, 1971, and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials 1973, NFPA No. 495, pages 59 through 62, with the exception of the definitions of the terms explosives, blasting agents, detonator, magazine and inhabited building as defined in Notes 2, 3, 4, 5, and 9 on page 61, and Note 14 on page 62, and which is hereby incorporated by reference and made a part hereof. The Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials NFPA No. 495—1973 may be examined in any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration or may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210. The terms explosives, blasting agents, detonator, magazine and inhabited building as used in this Part are defined elsewhere in this § 57.2.

2. It is proposed to revise the definition of "blasting agents" as follows:

"Blasting agents" means any material or mixture consisting of fuel and oxidizer intended for blasting and not otherwise defined as an explosive, and in which none of the ingredients is classified as an explosive either under this Section 57.2, or classified as an explosive by the Department of Transportation in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof, provided that the finished product, as mixed and packaged for use or shipment, cannot be initiated by a No. 8 test detonator, or equivalent, when unconfined. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

3. It is proposed to revise the definition of "Blasting cap" as follows:

"Blasting cap" means a detonator which is initiated by a safety fuse.

4. It is proposed to revise the definition of "Blasting circuit" as follows:

"Blasting circuit" means the electrical circuit used to fire one or more electric blasting caps.

5. It is proposed to add a definition of "Booster" as follows:

"Booster" means any unit of explosive or blasting agent to be used in a charged hole for the purpose of perpetuating or intensifying the initial detonation.

6. It is proposed to revise the definition of "Capped fuse" as follows:

"Capped fuse" means a length of safety fuse to which a blasting cap has been attached.

7. It is proposed to add a definition of "Charged hole" as follows:

"Charged hole" means any hole containing explosives, or blasting agents with a primer.

8. It is proposed to add a definition of "Delay connector" as follows:

"Delay connector" (MNMSAC) means a nonelectric short interval delay device for use in delaying blasts which are initiated by detonating cord.

9. It is proposed to revise the definition of "Detonator" as follows:

"Detonator" means any device containing a detonating charge that is used to initiate detonation of an explosive and includes blasting caps, electric blasting caps, and nonelectric delay blasting caps.

10. It is proposed to revise the definition of "Detonating cord" as follows:

"Detonating cord" means a flexible cord containing a full core of high explosives.

11. It is proposed to revise the definition of "Electric blasting caps" as follows:

"Electric blasting cap" means a detonator designed for and capable of being initiated by means of an electric current.

12. It is proposed to revise the definition of "Explosive" as follows:

"Explosive" means either any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; or, any compound, mixture, or device that is classified as an explosive by the Department of Transportation in 49 CFR Parts 170–189, revised as of October 1, 1974, and which is made a part hereof. Explosive shall not include any material or mixture that is defined as a blasting agent under this Section 57.2. Title 49 of the Code of Federal Regulations, Parts 170–189, revised as of October 1, 1974, is available for inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402.

13. It is proposed to add a definition of "Fire-retardant wood" as follows:

"Fire-retardant wood" means wood meeting the requirements for a Class A Fire-Retardant Pressure-Impregnated wood as specified in NFPA No. 703, Standard for Fire-Retardant Treatments of Building Materials, Chapter 1, in Volume 11 of the National Fire Code, 1975, pages 703–3 and 703–4, except that the second sentence in paragraph 141 shall read as follows: "The rating shall be certified by a nationally recognized testing laboratory and each piece of wood shall be so identified." Chapter 1 as revised herein is made a part hereof. NFPA No. 703 is available for public inspection at each Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration, and may be obtained from the National Fire Protection Association International, 470 Atlantic Avenue, Boston, MA 02210.

14. It is proposed to add a new definition of "Inhabited building" as follows:

"Inhabited building" means a building regularly occupied in whole or in part as a habitation for human beings, or any church, schoolhouse, railroad station, store, or other structure where persons are accustomed to assemble. An inhabited building also shall include any office, shop, mill, wash and changehouse, and any stationary equipment, structure, or facility used in the mine operation including ventilation fans, fan housings, mine openings, dams, and electrical transformer or substation installations.

15. It is proposed to add a definition of "Magazine" as follows:

"Magazine" means a facility that is suitable for the storage of explosives, blasting agents, or detonators.

16. It is proposed to add a definition of "Nonelectric delay blasting cap" as follows:

"Nonelectric delay blasting cap" (MNMSAC) means a detonator with an integral delay element and capable of being initiated by miniaturized detonating cord.

17. It is proposed to add a definition of "Portable fire extinguisher" as follows:

"Portable fire extinguisher":

(a) When used underground means a multipurpose dry-chemical extinguisher approved by the Underwriter's Laboratories, Inc., or Factory Mutual Research Corp., and having a minimum rating of 2A 10BC by the National Fire Protection Association.

(b) When used on the surface means an extinguisher approved by the National Fire Protection Association.

18. It is proposed to revise the definition of "Primer or Booster" as follows:

"Primer" means a unit, package, or cartridge of explosives containing a detonator or detonating cord which is used to transmit detonation to other explosives or blasting agents.

19. It is proposed to revise the definition of "Safety fuse" as follows:

"Safety fuse" means a flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps or a black powder charge.

20. It is proposed to add a definition of "Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" as follows:

"Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents" (MNMSAC) means the Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents as revised and approved by the National Fire Protection Association and published in the Code for the Manufacture, Transportation, Storage, and Use of Explosives Materials 1973, NFPA No. 495, pages 63 and 64, which is made a part hereof. NFPA No. 495 may be examined at any Metal and Nonmetal Mine

Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration and may be obtained from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

21. It is proposed to add a definition of "Water gel" or "Slurry" (as applied to blasting) with a cross reference as follows:

"Slurry" (as applied to blasting). See "Water gel."

"Water gel" or "Slurry" (as applied to blasting) means an expolsive or blasting agent containing substantial portions of water and other ingredients.

P. Section 57.4 *Fire Prevention and Control* is proposed to be amended as follows:

22. It is proposed to revise advisory standard 57.4–24 which is applicable to surface and underground and make it mandatory as follows:

57.4–24 *Mandatory.* MNMSAC. Fire extinguishers and fire suppression devices shall be:

(a) Of the appropriate type for the particular fire hazard involved.

(b) Adequate in number and size for the particular fire hazard involved.

(c) Replaced with a fully charged extinguisher or device, or recharged immediately, after any discharge is made from the extinguisher or device.

(d) Inspected, tested, and maintained at regular intervals according to the manufacturer's recommendations.

(e) Approved by the Underwriter's Laboratories, Inc., or other competent testing agency acceptable to the Mining Enforcement and Safety Administration.

23. It is proposed to add a new mandatory standard 57.4–28 which is applicable to surface and underground as follows:

57.4–28 *Mandatory.* MNMSAC. Welding, cutting, arc welding or soldering shall be performed by a competent person.

24. It is proposed to add a new mandatory standard 57.4–35 which is applicable to surface and underground as follows:

57.4–35 *Mandatory.* MNMSAC. Before any heat is applied to pipelines or containers which have contained flammable or combustible substances, they shall be drained, ventilated, thoroughly cleaned of residual substances and filled with either an inert gas or, where compatible, filled with water.

25. It is proposed to add a new mandatory standard 57.4–36 which is applicable to surface and underground as follows:

57.4–36 *Mandatory.* Where welding or cutting with an arc or open flame or soldering with an open flame in an active working containing combustible or flammable materials, 2 portable fire extinguishers and a second person shall be present. Where welding or cutting with an arc or open flame or soldering with an open flame in other areas, 1 portable fire extinguisher shall be present.

26. It is proposed to renumber advisory standard 57.4–12 and make it applicable to surface only as follows:

57.4–49 MNMSAC. Combustible materials, grease, lubricants, or flammable liquids should not be allowed to accumulate where they can create a fire hazard.

27. It is proposed to add a new mandatory standard 57.4–50 which is applicable to underground only as follows:

57.4–50 *Mandatory.* MNMSAC. All flammable and combustible waste materials, grease, lubricants or flammable liquids shall not be allowed to accumulate where they can create a fire hazard.

28. It is proposed to revise mandatory standard 57.4–65 which is applicable to underground only as follows:

57.4–65 *Mandatory.* After welding or cutting with an arc or open flame or soldering with an open flame in areas containing combustible or flammable materials, a fire patrol of affected areas shall be made continuously for the first hour and thereafter at hourly intervals for at least a period of 8 hours.

29. It is proposed to add a new mandatory standard 57.4–76 which is applicable to underground only as follows:

57.4–76 *Mandatory.* Where thawing pipe with an open flame in areas containing combustible or flammable materials two portable fire extinguishers and a second person shall be present. A fire patrol shall be made for at least one hour after thawing pipe with an open flame. Where thawing pipe electrically one portable fire extinguisher and at least one person shall be present.

30. It is proposed to add a new mandatory standard 57.4–77 which is applicable to underground only as follows:

57.4–77 *Mandatory.* Before and after welding and cutting with an arc or open flame or soldering with an open flame, timber and other combustible material shall be wetted down for a distance of at least 25 feet in all directions from such operation, or installed timber shall be wetted down and other timber and combustible material removed to a distance of at least 25 feet.

31. It is proposed to add a new mandatory standard 57.4–78 which is applicable to underground only as follows:

57.4–78 *Mandatory.* When welding or cutting with an arc or open flame or soldering with an open flame in a shaft, raise, winze or other active workings where sparks and heated material may fall, the opening immediately below the operation shall be covered or bulkheaded with a noncombustible material.

32. It is proposed to transfer reserved number 57.4–39 from under the center subheading entitled "General—Surface and Underground" to immediately under the center subheading entitled "Surface Only," to renumber advisory standard 57.4–27 to 57.4–39 and make it only applicable to "Surface Only", and to add a new mandatory standard 57.4–79 which is applicable to underground only as follows:

57.4–79 *Mandatory.* Each electrically powered vehicle which does not use hydraulic fluid or which uses fire-resistant hydraulic fluid shall be equipped with at least one portable fire extinguisher.

33. It is proposed to add a new mandatory standard 57.4–85 which is applicable to underground only as follows:

57.4–85. *Mandatory.* MNMSAC. Stationary diesel equipment shall not be supported on a combustible base.

34. It is proposed to add a new mandatory standard 57.4–86 which is applicable to underground only as follows:

57.4–86 *Mandatory.* MNMSAC. Stationary diesel equipment shall be provided with a thermal sensor which automatically stops the diesel engine should overheating occur.

Q. Section 57.5 *Air quality, ventilation, radiation and physical agents* is proposed to be amended as follows:

35. It is proposed to add a new center heading entitled "Air Quality" immediately below the section heading entitled "§ 57.5 Air quality, ventilation, radiation, and physical agents."

36. It is proposed to revise advisory standard 57.5–15 which is applicable to underground only and make it mandatory as follows:

57.5–15 *Mandatory.* Air in all active workings shall contain at least 19.5 volume percent oxygen.

37. It is proposed to add new center subheadings and to transfer reserved numbers and place them under such centered subheadings in § 57.5 as follows:

(a) A new center subheading entitled "General—Surface and Underground" immediately below the center heading entitled "Ventilation."

(b) Transfer the reserved number 57.5–18 and place it under the new center subheading in item (a) above and to replace this number with the series of numbers 57.5–18A through 57.5–18Z, and to reserve numbers 57.5–18A, 57.5–18C and 57.5–18E through 57.5–18Z.

(c) A new center subheading entitled "Surface Only" immediately below proposed reserved number 57.5–18Z.

(d) Transfer the reserved number 57.5–19 and place it under the new center subheading in item (c) above and to replace this number with the series of reserved numbers 57.5–19A through 57.5–19Z.

(e) Revise the entry "57.5–16 through 57.5–19 [Reserved]" to read "57.5–16 and 57.5–17 [Reserved]" and the revision is to remain under its present center subheading.

38. It is proposed to add a new mandatory standard 57.5–18B which is applicable to surface and underground as follows:

57.5–18B *Mandatory.* Combustible materials shall not be allowed to accumulate in areas surrounding main and booster fans located either on the surface or underground for a distance of at least 100 feet in all directions, except that fire-retardant material may be used for ground support.

39. It is proposed to add a new mandatory standard 57.5–18D which is applicable to surface and underground as follows:

57.5–18D *Mandatory.* All main and all booster fans of the mine shall be operated continuously while persons are underground. In the event of fan failure, scheduled maintenance, or fan adjustments:

(a) The air in the affected active workings shall be monitored by a competent person for compliance with requirements of the standards in this section 57.5 until normal ventilation is restored, or

(b) All persons, except those working on the fan, shall be withdrawn, the ventilation shall be restored to normal and the air in the affected active workings shall be tested by a competent person to assure that the air meets the requirements of the standards in this section 57.5 before any other persons are permitted to enter the affected active workings.

40. It is proposed to add a new mandatory standard 57.5–20 which is applicable to underground only as follows:

57.5–20 *Mandatory.* A ventilation plan, and revisions thereof, suitable to the conditions and the mining system of the mine shall be set out by the operator in written form and submitted for review, comments, and approval to the District Manager, Metal and Nonmetal Mine Health and Safety, of the district in which the mine is located. The Plan shall be reviewed, updated and resubmitted by the operator to the District Manager for review, comments, and approval at least every 12 months from the date of the last submittal. The Plan shall, where appropriate, contain the following:

(a) The mine name.

(b) A current mine map or series of mine maps of a scale not greater than 500 feet to the inch showing:

(1) Locations of all active workings;

(2) Locations of all airways;

(3) Locations of main and booster fans;

(4) Directions of airflow in all airways;

(5) Quantity of airflow in each airway;

(6) Locations of seals used to isolate an abandoned working;

(7) Locations of all unventilated areas;

(8) Locations of ventilation and fire doors;

(9) Locations of air regulators and stoppings;

(10) Locations of overcasts, undercasts, and other airway crossover devices;

(11) Designations of escapeways;

(12) Locations of refuge chambers;

(13) Locations of any known oil or gas wells;

(14) Locations of underground mine openings adjacent to the mine; and

(15) Locations of underground shops, diesel fuel storage, oil storage, substations, battery charging stations, hoist rooms, compressors, and explosives storage facilities.

(c) Mine fan data for all main and booster fans including manufacturer's name, type, size, speed, water gage, air quantity capabilities, blade setting at present operating point, and fan motor name plate data.

(d) The procedure for reversing main fans.

(e) Descriptions and sketches as to how face ventilation is accomplished in each type of working place and the approximate quantity of air provided.

(f) The number and type of internal combustion engine powered units used underground including make and model of unit, type of engine, make and model of engine, horsepower rating of engine, approval number, and the number of units by type that operate in each active working.

(g) The locations of remote controls and operation indicators for all main and booster fans.

41. It is proposed to add a new mandatory standard 57.5–24 which is applicable to underground only as follows:

57.5–24 *Mandatory.* Intake airways, excluding auxiliary fan systems, shall be separated from exhaust airways to prevent recirculation.

42. It is proposed to add a new mandatory standard 57.5–31 which is applicable to underground only as follows:

57.5–31 *Mandatory.* MNMSAC. Ventilation doors shall be:

(a) Substantially constructed.

(b) Covered with fire-retardant material, if constructed of wood.

(c) Maintained in good condition.

(d) Self-closing, if manually operated.

(e) Equipped with audible and visual warning devices, if mechanically operated.

43. It is proposed to add a new mandatory standard 57.5–32 which is applicable to underground only as follows:

57.5–32 *Mandatory.* MNMSAC. When ventilation control doors are opened as a part of the normal mining cycle, they shall be closed as soon as possible to re-establish normal ventilation to working places.

44. It is proposed to add a new mandatory standard 57.5–34 which is applicable to underground only as follows:

57.5–34 *Mandatory.* Auxiliary fans shall be operated continuously while persons are in working places ventilated by the fans. In event of auxiliary fan failure, scheduled maintenance, or fan adjustments, a competent person shall test the air quality at least every two hours until ventilation is restored; or all persons, except those working on the fan, shall be withdrawn from the affected active workings. If persons are withdrawn, the ventilation shall be restored to normal and the quality of air in the affected active workings tested by a competent person before any other persons are permitted to enter the affected active workings.

45. It is proposed to revise mandatory standard 57.5–37 which is applicable to underground only as follows:

57.5–37 *Mandatory.* In all mines:

(a) At least one mine air sample shall be taken in exhaust air by a competent person to determine if concentrations of radon daughters are present. Sampling shall be done using equipment and procedures described in section 14.3 of ANSI N13.8–1973, entitled "American National Standard Radiation Protection in Uranium Mines," approved July 18, 1973, pages 13–15, by the American National Standards Institute, Inc., which is hereby incorporated by reference and made a part hereof. This publication may be examined in any Metal and Nonmetal Mine Health and Safety Subdistrict Office, Mining Enforcement and Safety Administration or may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018. Thereafter—

(1) Except where uranium is mined—when radon daughter concentrations between 0.1 and 0.3 WL are found in active workings, radon daughter concentration measurements shall continue to be determined within 90 days from the date of the last sample, or until such time as the radon daughter concentrations are below 0.1 WL, and annually thereafter.

(2) Where uranium is mined—radon daughter concentrations shall be sampled within 30 days from the date of the last sample in all working places, travelways, haulageways, shops, stations, lunch rooms, magazines, and any other place or location where persons work, travel or congregate.

(b) The sample date, location, and results obtained under (a) above shall be recorded and retained at the mine site or nearest mine office for at least two years and shall be made available for inspection by the Secretary of the Interior or his duly authorized representative.

46. It is proposed to revise mandatory standard 57.5–38 which is applicable to underground only as follows:

57.5–38 *Mandatory.* MNMSAC. No person shall be permitted to receive an exposure in excess of 4 WLM in any calendar year.

47. It is proposed to revise mandatory standard 57.5–39 which is applicable to underground only as follows:

57.5–39 *Mandatory.* MNMSAC. Except as provided by standard 57.5–5, persons shall not be exposed to air containing concentrations of radon daughters exceeding 1.0 WL in active workings.

48. It is proposed to revise mandatory standard 57.5–40 which is applicable to underground only as follows:

57.5—40 *Mandatory.* When concentrations of radon daughters are found in excess of 0.3 WL in any active working:

(a) The operator shall sample the air within the breathing zones of persons working in stopes and drift headings, and sample the air in all travelways, haulageways, shops, stations, lunchrooms, magazines, and any other place or location where persons work, travel or congregate. Sampling shall be performed at least weekly at random times during regular work shifts, and shall be done by a competent person using equipment and procedures described in section 14.3 of ANSI N13.8–1973, entitled "American National Standard Radiation Protection in Uranium Mines," approved July 18, 1973, pages 13–15, by the American National Standards Institute, Inc., which is hereby incorporated by reference and made a part hereof. This publication may be examined in any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration or may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.

(b) The operator shall keep records of individual exposure to concentrations of radon daughters for all persons working underground. These records shall include the individual's time in each working place and each active working, and the average concentration of airborne alpha radiation for each working place and each active working.

(c) The operator shall maintain a "Record of Work Area Radon Daughter Concentrations" (Form Y–4000–8, or Form Y–4000–8s for mines located in States with State Plans) and a "Record of Individual Exposure to Radon Daughters" (Form X–4000–9 or Form X–4000–9s for mines located in States with State Plans), or equivalent reporting forms that are acceptable to the Administrator, Mining Enforcement and Safety Administration, on which there shall be entered and recorded specific information with respect to each person's average exposure to concentrations of radon daughters. Form Y–4000–8 or Y–4000–8s shall also include any measurements taken by Federal and State representatives and reported to the operator. Such Federal and State measurements shall be clearly identified.

(1) For mines located in a State with a State Plan approved by the Secretary of the Interior under section 16 of the Federal Metal and Nonmetallic Mine Safety Act, the "Record of Work Area Radon Daughter Concentrations" (Form Y–4000–8s) and the "Record of Individual Exposure to Radon Daughters" (Form X–4000–9s) shall consist of an original of each form for the operator's records and a first and second copy of each form for use by the Mining Enforcement and Safety Administration and the State, respectively. Operators shall retain the original and mail or deliver a clear, legible copy of each form, or acceptable equivalent reporting form to the State agency responsible for administering the State Plan on behalf of the State in which the mine is located, and to:

Data Management—Attn: MCS System
Mining Enforcement and Safety Administration
603 Miller Court
Lakewood, Colorado 80215

Such forms shall be mailed or delivered no later than 14 days following a reporting

period covering each four week period, or part thereof, beginning with the first Sunday of the calendar year and continuing into the following year to include all days to the first Sunday of the following calendar year.

(2) For mines located in a State without a State Plan, the "Record of Work Area Radon Daughter Concentrations" (Form Y–4000–8) and the "Record of Individual Exposure to Radon Daughters" (Form X–4000–9) shall consist of an original of each form for the operator's records and a carbon copy of each form, for use by the Mining Enforcement and Safety Administration. Operators shall retain the original and mail or deliver a clear, legible copy of each form, or acceptable equivalent reporting form, to the Mining Enforcement and Safety Administration, address given in (b)(1) above, no later than 14 days following a reporting period covering each four week period, or part thereof, beginning with first Sunday of the calendar year and continuing into the following year to include all days to the first Sunday of the following year.

(3) Errors detected by the operator shall be corrected, and a corrected copy of the reporting form, or acceptable equivalent, shall identify the error and indicate the date the correction was made. The corrected copy or acceptable equivalent shall be immediately mailed or delivered to the Mining Enforcement and Safety Administration, address given in (b)(1) above and, if applicable, to the State agency.

(4) The operator's records of individual exposure to concentrations of radon daughters and copies of "Record of Work Area Radon Daughter Concentration," and "Record of Individual Exposure to Radon Daughters" or true legible facsimiles thereof (microfilm or other), shall be retained at the mine or nearest mine office for a period of 2 years from the date the records are mailed or delivered to the Mining Enforcement and Safety Administration. These records shall be open for inspection by the Secretary of the Interior, his duly authorized representative, and authorized representatives of the official mine inspection agency of the State in which the mine is located.

(5) Upon written request from a person who is a subject of these records, copies of such records applicable to that person shall be provided to the person, or to whomever such person designates.

(6) The forms entitled "Record of Work Area Radon Daughter Concentrations" (Form Y–4000–8, or Y–4000–8s) and the "Record of Individual Exposure to Radon Daughters" (Form X–4000–9, or X–4000–9s) may be obtained on request from any Metal and Nonmetal Mine Health and Safety Subdistrict Office of the Mining Enforcement and Safety Administration.

NOTE. To calculate an individual's exposure in WLM for a given period of time in each working place or each active working, as applicable, multiply the total exposure time (hours to the nearest half hour) in a working place or an active working, as applicable, by the average concentration of airborne alpha radiation for the applicable working place or active working (average working level calculated to the nearest hundredth working level), and divide the product by the constant, 173 hours per month.

An average airborne alpha radiation concentration for a designated working place or active workings shall be determined by averaging all sampling results for the applicable working place or active working during the week that the person is present in that designated working place or active working.

An individual's exposure for an extended period of time is the sum of the individual's exposure calculated each week, or part thereof, for all working places and active workings where the individual has worked during that period of time.

49. It is proposed to revise mandatory standard 57.5–41 which is applicable to underground only as follows:

57.5–41 *Mandatory.* MNMSAC. Smoking shall be prohibited in all areas of a mine where exposure records are required to be kept in compliance with standard 57.5–40.

50. It is proposed to add a new center heading entitled "Physical Agents", and thereunder and preceding standard 57.5–50, add a new center subheading entitled "General—Surface and Underground".

R. Section 57.6 *Explosives* is proposed to be amended as follows:

51. It is proposed to add a new center heading entitled "Miscellaneous", a new center subheading entitled "General—Surface and Underground", and reserve numbers 57.6–251 through 57.6–300 and to renumber and revise mandatory standard 57.6–6 which is applicable to surface and underground as follows:

57.6–250 *Mandatory.* Smoking, matches, lighters, and open flames shall not be permitted within 50 feet of explosives, detonators, or blasting agents, except for the use of suitable devices for igniting safety fuse.

52. It is proposed to revoke mandatory standards 57.6–52 and 57.6–95.

53. It is proposed to revoke advisory standards 57.6–9 and 57.6–10, and to revise advisory standard 57.6–7 which is applicable to surface and underground and make it mandatory as follows:

57.6–7 *Mandatory.* Explosives, detonators, and related materials such as safety fuse and detonating cord shall be:

(a) Stored in a manner to facilitate use of oldest stocks first.

(b) Stored according to brand and grade.

(c) Stored with their top sides up.

(d) Stacked not more than six (6) feet high.

54. It is proposed to add a new mandatory standard 57.6–11 which is applicable to surface and underground as follows:

57.6–11 *Mandatory.* Containers of explosives and detonators shall be securely closed while being stored.

55. It is proposed to revoke advisory standard 57.6–55, and to revise advisory standard 57.6–48 which is applicable to surface and underground and make it mandatory as follows:

57.6–48 *Mandatory.* Explosives and blasting agents shall be transported without undue delay, and over routes and at times that expose a minimum number of persons.

56. It is proposed to revoke standard 57.6–49. MNMSAC.

57. It is proposed to revise mandatory standard 57.6–92 which is applicable to surface and underground as follows:

57.6–92 *Mandatory.* Damaged or deteriorated explosives and blasting agents shall be destroyed in a safe manner under the supervision or instructions of the explosives manufacturer.

58. It is proposed to revise mandatory standard 57.6–97 which is applicable to surface and underground as follows:

57.6–97 *Mandatory.* Primers shall be made up only at the time of charging and as close to the blasting area as conditions allow.

59. It is proposed to revise advisory standard 57.6–98 which is applicable to surface and underground and make it mandatory as follows:

57.6–98 *Mandatory.* Primers:

(a) Containing a detonator shall be prepared with the detonator contained securely and completely within the explosive charge.

(b) Using detonating cord shall be prepared with the detonating cord threaded through, attached securely to, or otherwise in intimate contact with, the explosive charge.

60. It is proposed to revise mandatory standard 57.6–100 which is applicable to surface and underground as follows:

57.6–100 *Mandatory.* MNMSAC. Tamping poles shall be of wood or other material acceptable to the Mining Enforcement and Safety Administration. Couplers of tamping poles shall be of nonsparking materials.

61. It is proposed to revise mandatory standard 57.6–101 which is applicable to surface and underground as follows:

57.6–101 *Mandatory.* Tamping shall not be done directly on a primer.

62. It is proposed to revise advisory standard 57.6–106 which is applicable to surface and underground and make it mandatory as follows:

57.6–106 *Mandatory.* Faces and muck piles shall be examined by a competent person for undetonated explosives or blasting agents after each blast. Any undetonated explosives or blasting agents found shall be disposed of before any other work is done in the immediate vicinity of such explosives.

63. It is proposed to revoke advisory standard 57.6–167 and to revise advisory standard 57.6–109 which is applicable to surface and underground and make it mandatory as follows:

57.6–109 *Mandatory.* Safety fuse, ignitor cord, and detonating cord shall not be used if they have been kinked, bent sharply, or otherwise damaged.

64. It is proposed to revise advisory standard 57.6–118 which is applicable to surface and underground and make it mandatory as follows:

57.6–118 *Mandatory.* When using safety fuse, timing shall be such that all fuses are burning within the holes before any hole fires.

65. It is proposed to revise advisory standard 57.6–121 which is applicable to surface and underground and make it mandatory as follows:

57.6–121 *Mandatory.* When blasting electrically, a blasting galvanometer, or other instruments that are specifically designed for testing blasting circuits, shall be used to test:

(a) Electric blasting caps for continuity prior to the addition of stemming to the borehole.

(b) Electric blasting cap series for resistance.

(c) Blasting lines for circuit continuity.

(d) Blasting circuits for resistance and continuity prior to connection to the power source.

66. It is proposed to revise advisory standard 57.6–132 which is applicable to surface and underground and make it mandatory as follows:

57.6–132 *Mandatory.* MNMSAC. Delay connectors shall be treated and handled with the same safety precautions as detonators.

67. It is proposed to revise advisory standard 57.6–136 which is applicable to surface and underground and make it mandatory as follows:

57.6–136 *Mandatory.* MNMSAC. Black powder shall not be used for blasting except when a desired result cannot be obtained with another type of explosive such as in quarrying certain types of dimension stone.

68. It is proposed to renumber mandatory standard 57.6–166 which is applicable to surface only and make it applicable to surface and underground as follows:

57.6–115 *Mandatory.* MNMSAC. All detonating cord knots shall be tight and all connections shall be kept at right angles to the trunklines.

69. It is proposed to renumber and revise advisory standard 57.6–169 which is applicable to surface only and make it mandatory and applicable to surface and underground as follows:

57.6–138 *Mandatory.* Explosives or blasting agents shall not be loaded into drilled or sprung holes that will result in premature detonation from heat.

70. It is proposed to renumber and revise advisory standard 57.6–176 which is applicable to underground only and make it mandatory and applicable to surface and underground as follows:

57.6–139 *Mandatory.* Blasting areas shall not be reentered after firing until dangerous concentrations of smoke, dust, and fumes have been reduced to safe limits.

71. It is proposed to renumber and revise advisory standard 57.6–180 which is applicable to underground only and to make it mandatory and applicable to surface and underground as follows:

57.6–140 *Mandatory.* Electric blasting caps and blasting circuits shall be isolated from sources of static electricity and stray currents, and from any extraneous electrical contact.

72. It is proposed to renumber and revise mandatory standard 57.6–170 which is applicable to surface only and make it applicable to surface and underground as follows:

57.6–126 *Mandatory.* Electrical circuits shall be deenergized within 50 feet of boreholes containing electrical detonators and the power circuits shall not be reenergized until the shots are fired. Stray current tests shall be conducted, and the maximum stray current that shall be tolerated is 0.05 amperes.

73. It is proposed to revoke advisory standard 57.6–197. MNMSAC.

74. It is proposed to renumber and revise advisory standard 57.6–179 and make it mandatory and applicable to surface and underground as follows:

57.6–93 *Mandatory.* MNMSAC. Blast holes shall be cleaned before charging is begun.

S. Section 57.9 *Loading, hauling, dumping* is proposed to be amended as follows:

75. It is proposed to revise advisory standard 57.9–1 which is applicable to surface and underground and make it mandatory as follows:

57.9–1 *Mandatory.* Mobile equipment that is to be used during a shift shall be inspected by the equipment operator before being placed in operation. Equipment defects affecting safety shall be reported to, and recorded by, the mine operator. The records shall be maintained at the mine or nearest mine office for at least 2 years from the date the defects are recorded. Such records shall be made available for inspection by the Secretary of the Interior or his duly authorized representative.

76. It is proposed to revise mandatory standard 57.9–9 which is applicable to surface and underground as follows:

57.9–9 *Mandatory.* MNMSAC. Operators shall sound warning before starting trains and when trains approach crossings, other trains on adjacent tracks, persons, and any place where vision is obscured.

77. It is proposed to revise advisory standard 57.9–17 which is applicable to surface and underground and make it mandatory as follows:

57.9–17 *Mandatory.* MNMSAC. Equipment operating speeds shall be consistent with conditions of roadways, grades, clearance, visibility, traffic, and the type of equipment used.

78. It is proposed to revise advisory standard 57.9–19 which is applicable to surface and underground and make it mandatory as follows:

57.9–19 *Mandatory.* MNMSAC. Track guardrails, lead rails, and frogs shall be protected or blocked so as to prevent a person's foot from becoming wedged.

79. It is proposed to revoke advisory standard 57.9–21. MNMSAC.

80. It is proposed to renumber and revise advisory standard 57.9–100 and make it mandatory and applicable to surface and underground as follows:

57.9–26 *Mandatory.* MNMSAC. A quick-close type air valve shall be provided on each piece of pneumatic-powered loading, hauling, and dumping equipment. The valve shall be closed except when the equipment is being operated.

81. It is proposed to revise advisory standard 57.9–34 which is applicable to surface and underground and make it mandatory as follows:

57.9–34 *Mandatory.* Haulage equipment shall not be loaded in excess of bulk or rated weight capacity.

82. It is proposed to revise mandatory standard 57.9–37 which is applicable to surface and underground as follows:

57.9–37 *Mandatory.* MNMSAC. Mobile equipment shall not be left unattended unless the brakes are set. Mobile equipment with wheels or tracks, when parked on a grade, shall be either blocked or turned into a bank or rib; and the bucket or blade lowered to the ground to prevent movement.

83. It is proposed to revoke advisory standard 57.9–38. MNMSAC.

84. It is proposed to revoke advisory standard 57.9–44 and mandatory standards 57.9–33, 57.9–43 and 57.9–117, and to revise mandatory standard 57.9–40 which is applicable to surface and underground as follows:

57.9–40 *Mandatory.* MNMSAC. Men shall not be transported:

(a) In or on dippers, forks, clamshells, beds of trucks unless special provisions are made for their safety, or buckets except shaft buckets.

(b) On top of loaded haulage equipment.

(c) Outside the cabs and beds of mobile equipment, except trains.

(d) Between cars of trains.

(e) In conveyance equipped with unloading devices unless means are provided to prevent accidental starting of the unloading mechanism.

85. It is proposed to revise advisory standard 57.9–42 which is applicable to surface and underground and make it mandatory as follows:

57.9–42 *Mandatory.* MNMSAC. Rocker-bottom or bottom-dump rail cars shall be equipped with locking devices.

86. It is proposed to revoke advisory standard 57.9–86, and to revise advisory standard 57.9–49 which is applicable to surface and underground and make it mandatory as follows:

57.9–49 *Mandatory.* MNMSAC. When in the dark or under conditions of limited visibility, all vehicles carrying loads which project beyond the sides or more than four feet beyond the rear of the vehicles shall display a red light at the end of the projection; or in the light, a red flag not less than 12 inches square shall be displayed at the end of the projection.

87. It is proposed to revise advisory standard 57.9–53 which is applicable to surface and underground and make it mandatory as follows:

57.9–53 *Mandatory.* MNMSAC. Water, debris, or spilled material which create hazards to moving equipment shall be removed.

88. It is proposed to revise advisory standard 57.9–55 which applies to surface and underground and make it mandatory as follows:

57.9–55 *Mandatory.* MNMSAC. Where there is evidence that the ground at a dumping place may fail to support the weight of a vehicle, loads shall be dumped back from the edge of the bank.

89. It is proposed to revise mandatory standard 57.9–64 which is applicable to surface and underground as follows:

57.9–64 *Mandatory.* Facilities and installations used for loading and unloading muck and materials shall be constructed so that persons in attendance are not required to be in a hazardous location or position.

90. It is proposed to revise advisory standard 57.9–65 which is applicable to surface and underground and make it mandatory as follows:

57.9–65 *Mandatory.* MNMSAC. Cars shall not be coupled, or uncoupled, manually from the inside of curves unless the railroad and cars are so designed to eliminate any hazard from manual coupling.

91. It is proposed to revise advisory standard 57.9–66 which is applicable to surface and underground and make it mandatory as follows:

57.9–66 *Mandatory.* MNMSAC. When a locomotive on one track is used to move equipment on a different track, a suitable chain or drawbar shall be used.

92. It is proposed to renumber advisory standard 57.9–84 and make it mandatory and applicable to surface and underground as follows:

57.9–71 *Mandatory.* MNMSAC. Traffic rules including speed, signals, and warning signs shall be standardized at each mine and posted.

93. It is proposed to revise mandatory standard 57.9–85 which is applicable to surface only as follows:

57.9–85 *Mandatory.* MNMSAC. Tools, materials and equipment shall not be transported with persons in rail cars and other vehicles and conveyances unless means have been provided to make such transportation safe.

94. It is proposed to renumber and revise advisory standard 57.9–4 and make it mandatory and applicable to surface only as follows:

57.9–87 *Mandatory.* MNMSAC. Heavy duty mobile equipment shall be provided with audible warning devices. When the operator of such equipment has an obstructed view to the rear, the equipment shall have either an automatic reverse signal alarm which is audible above the surrounding noise level or an observer to signal when it is safe to back up.

95. It is proposed to revise advisory standard 57.9–96 which is applicable to underground only and make it mandatory as follows:

57.9–96 *Mandatory.* MNMSAC. Tools or materials, except properly located and secured rerailing devices, shall not be carried on top of locomotives. Tools or materials shall not be carried in the cab if they would interfere with the operation of the locomotive.

96. It is proposed to revise advisory standard 57.9–104 which is applicable to underground only and make it mandatory as follows:

57.9–104 *Mandatory.* Warning devices or conspicuous markings shall be installed where chute lips, air doors, and obstructions create a hazard to persons.

97. It is proposed to revoke advisory standard 57.9–109. MNMSAC.

98. It is proposed to revise advisory standard 57.9–111 which is applicable to underground only and make it mandatory as follows:

57.9–111 *Mandatory.* MNMSAC. Shelter holes shall be at least 4-feet wide, marked conspicuously with lights or reflective signs or reflective tape or reflectors or luminous paint, provide a minimum of 40-inch clearance from the farthest projection of moving equipment, and shall not be used for storage of timber, tools, or other materials unless a 40-inch clearance is maintained.

T. Section 57.11. *Travelways and escapeways* is proposed to be amended as follows:

99. It is proposed to add a new mandatory standard 57.11–59 which is applicable to underground only as follows:

57.11–59 *Mandatory.* Hoists located underground which are a part of the mine escape and evacuation plan required under standard 57.11–53 shall be provided with suitable enclosures with a respirable atmosphere to protect the hoist operators. These enclosures shall be equipped with:

(a) A positive-pressure ventilation system that will provide the hoist operator with a respirable atmosphere independent of the mine atmosphere and that is operated either continuously or is capable of being activated immediately from within the enclosure during an emergency evacuation. Air for the independent ventilation system shall be provided by at least one of the following—

(1) Air coursed from the surface through a borehole into the hoist enclosure;

(2) Air supplied by air compressors located on the surface and coursed through metal pipe into the enclosure; and

(3) Air coursed from the surface through metal duct work into the enclosure. This duct work shall not be located in timber supported active workings.

(b) If the positive-pressure independent ventilation system is not routed through a borehole directly from the surface to the enclosure, a backup system shall be provided in addition to either independent system (a)(2) or (a)(3) specified above. This backup system shall consist of compressed air stored in containers connected to the enclosure. This system shall provide and maintain a respirable atmosphere in the enclosure for a period of time equal to at least twice the time necessary to complete the evacuation of all persons designated to use that hoist as prescribed in the mine escape and evacuation plan required under standard 57.11–53.

(c) An approved and properly maintained 2-hour self-contained breathing apparatus shall be kept in the operator's enclosure to provide a safe means of escape for the operator after the hoisting duties have been completed as prescribed in the mine escape and evacuation plan for that hoist.

U. Section 57.19 *Man hoisting* is proposed to be amended as follows:

100. It is proposed to revoke advisory standard 57.19–23, and to revise advisory standard 57.19–22 and make it mandatory as follows:

57.19–22 *Mandatory.* MNMSAC. The end of the rope at the drum shall make at least one full turn on the drum shaft, or a spoke of the drum in the case of a free drum, and shall be fastened securely by means of rope clips or clamps. There shall be three full turns of cable or rope on the hoisting drum when the cable or rope is extended to its maximum working length. This standard does not apply to friction hoists.

101. It is proposed to revise advisory standard 57.19–63 and make it mandatory as follows:

57.19–63 *Mandatory.* MNMSAC. Only authorized persons shall be in hoist rooms.

102. It is proposed to revise advisory standard 57.19–78 and make it mandatory as follows:

57.19–78 *Mandatory.* All buckets shall be stopped after being raised about 3 feet above the shaft bottom. A bucket shall be stabilized before a hoisting signal is given to continue hoisting the bucket to the crosshead. After a hoisting signal is given, hoisting to the crosshead shall be at the minimum speed. The signaling device shall be attended constantly until a bucket reaches the guides. When persons are hoisted, the signaling devices shall be attended until the crosshead has been engaged.

103. It is proposed to revise advisory standard 57.19–95 and make it mandatory as follows:

57.19–95 *Mandatory.* MNMSAC. Hoisting signal devices shall be positioned within easy reach of persons on the shaft bottom or constantly attended by a person stationed on the lower deck of the sinking platform.

104. It is proposed to revise advisory standard 57.19–103 and make it mandatory as follows:

57.19–103 *Mandatory.* MNMSAC. Dumping facilities and loading pockets shall be constructed so as to minimize spillage into the shaft.

V. Section 57.20 *Miscellaneous* is proposed to be amended as follows:

105. It is proposed to revise advisory standard 57.20–8 which is applicable to surface and underground and make it mandatory as follows:

57.20–8 *Mandatory.* At least 1 toilet within 10 minutes accessibility shall be provided for each 10 male workers or less. At least 1 toilet within 10 minutes accessibility shall be provided for each 10 female workers or less. Toilets for male and female workers shall be separate, properly supplied, clean and sanitary. Toilets shall be chemical types, water closets, or equivalent facilities approved by the District Manager, Metal and Nonmetal Mine Health and Safety, for the district in which the mine is located. Such facilities shall be protected from the elements and serviced when full, but not less frequently than weekly. Toilets shall be removed to the surface for cleaning, recharging, disposal (as applicable); or toilet waste transfer tanks and transfer equipment shall be provided with fittings to permit complete transfer of waste without spillage. Toilet waste shall be disposed of in accordance with State and local laws and regulations.

W. Section 57.21 *Gassy mines* is proposed to be amended as follows:

106. It is proposed to revise mandatory standard 57.21–2 as follows:

57.21–2 *Mandatory.* MNMSAC. Flammable gases detected only while unwatering mines or flooded sections of mines or during other mine reclamation operations shall not be used to permanently classify a mine gassy. During such periods that any flammable gas is present in the mine, the affected areas of the mine shall be operated in accordance with appropriate standards in this Section 57.21.

107. It is proposed to revise mandatory standard 57.21–20 as follows:

57.21–20 *Mandatory.* MNMSAC. Main fans shall be:

(a) Installed on the surface.

(b) Installed to permit prompt reversal of airflow.

(c) Powered electrically.

(d) Installed in noncombustible housing provided with noncombustible air ducts.

(e) Offset not less than 15 feet from the nearest side of the mine opening to which the fan is connected. The fan installation shall be equipped with explosion-doors or a weak-wall having an area at least equivalent to the cross-sectional area of the airway. Such doors or weak-wall shall be in direct line with possible explosion forces.

(f) Provided with an automatic signal device to give warning or alarm should the fan system malfunction. The signal device shall be so located that it can be seen or heard by a responsible person at all times when persons are underground.

108. It is proposed to revise advisory standard 57.21–21 and make it mandatory as follows:

57.21–21 *Mandatory.* Main fans shall be:

(a) Operated continuously while persons are underground; in the event of fan main-

tenance and/or fan adjustments, all persons, except those working on the fan, shall be withdrawn from the affected active workings, and the main power in those active workings, shall be deenergized.

(b) Provided with pressure-recording gages which shall be examined daily for good operating condition. The charts of such gages shall be changed after completing one revolution.

(c) Inspected daily and logs kept of such inspections and of fan maintenance.

(d) Charts and logs shall be retained for a minimum of one year. Such records and charts shall be available for inspection by the Secretary of the Interior or his duly authorized representative.

109. It is proposed to revise mandatory standard 57.21–24 as follows:

57.21–24 *Mandatory.* When a main fan stops, the operator shall take the following immediate actions:

(a) Withdraw all persons from the affected active workings.

(b) Deenergize the power in affected active workings.

(c) Withdraw all persons from the mine when a 1.0 percent concentration of methane in air is measured in any active working.

If ventilation has been interrupted for more than 15 minutes, all working places and active workings where methane may accumulate shall be examined by a competent person(s). The power shall not be restored or persons permitted to reenter the affected active workings until the competent person(s) has determined the methane concentration in such active workings is less than 1.0 percent.

110. It is proposed to revise advisory standard 57.21–25 and make it mandatory as follows:

57.21–25 *Mandatory.* When there has been a failure of mine ventilation other than a failure of a main fan as described in standard 57.21–24, the operator shall take the following immediate actions:

(a) Withdraw all persons from the affected active workings.

(b) Deenergize the power in affected active workings. The power shall not be restored or persons permitted to reenter the affected active workings until a competent person(s) has determined that the methane concentration in such active workings is less than 1.0 percent.

111. It is proposed to revise mandatory standard 57.21–28 as follows:

57.21–28 *Mandatory.* Booster fans shall be:

(a) Operated by permissible drive units maintained in permissible condition.

(b) Operated only in air containing less than 1.0 percent methane.

(c) Kept in continuous operation when persons are in active workings of the mine affected by such fans.

112. It is proposed to revise mandatory standard 57.21–29 as follows:

57.21–29 *Mandatory.* MNMSAC. Booster fans shall be:

(a) Provided with an automatic signal device to give warning or alarm should the fan system malfunction. The signal device shall be so located that it can be seen or heard by a responsible person at all times when persons are underground.

(b) Equipped with a device that automatically deenergizes the power in affected active workings should the fan system malfunction.

(c) Provided with air locks, the doors of which open automatically should the fan stop.

(d) Equipped with two sets of controls capable of starting, stopping, and reversing the fans. One set of controls shall be located at the fans. A second set of controls shall be at another location remote from the fans.

113. It is proposed to add a new mandatory standard 57.21–64 as follows:

57.21–64 *Mandatory.* Each operator shall use permissible devices accepted by the Secretary of the Interior for detecting flammable gases, oxygen deficiency, carbon monoxide, and other air contaminants. Such permissible devices shall be provided and maintained in serviceable and permissible condition. In the detection of flammable gases, a permissible flame safety lamp may be used only as a supplementary testing device.

114. It is proposed to add a new mandatory standard 57.21–67 as follows:

57.21–67 *Mandatory.* MNMSAC. All gassy mines shall be ventilated mechanically.

115. It is proposed to add a new mandatory standard 57.21–68 as follows:

57.21–68 *Mandatory.* MNMSAC. Airflow shall be maintained in all intake and return air courses of a mine. When multiple main fans are used, such ventilation systems shall not develop neutral areas (areas without perceptible air movement).

116. It is proposed to add a new mandatory standard 57.21–69 as follows:

57.21–69 *Mandatory.* MNMSAC. In mines ventilated by a combination of multiple blowing or multiple exhausting main fans, each mine fan installation shall be equipped with noncombustible doors designed and positioned so that, in the event of failure of a main fan, these doors will automatically close to prevent air reversal through the fan. The doors shall be located so that they are not in direct line with forces which would come out of the mine, should an explosion occur.

117. It is proposed to add a new mandatory standard 57.21–80 as follows:

57.21–80 *Mandatory.* A methane monitoring device (methane monitor), approved by the Secretary of the Interior, shall be installed and properly maintained on all continuous miner and longwall face equipment. The sensing unit of the methane monitor shall be positioned as close to the working face as practicable. When the concentration of methane is 1.0 percent or more, the monitor shall give a warning and deenergize the equipment automatically. The methane monitor also shall deenergize such equipment automatically when the monitor is not functioning properly.

[FR Doc.75–25528 Filed 9–24–75;8:45 am]

federal register

THURSDAY, SEPTEMBER 25, 1975

PART IV:

PRIVACY ACT OF 1974

■

VARIOUS AGENCIES

Title 18—Conservation of Power and Water Resources

CHAPTER I—FEDERAL POWER COMMISSION

[Docket No. RM76-4; Order No. 536]

PART 3b—COLLECTION, MAINTENANCE, USE, AND DISSEMINATION OF RECORDS OF IDENTIFIABLE PERSONAL INFORMATION

SEPTEMBER 23, 1975.

On August 13, 1975, the Commission issued a Notice proposing the adoption of rules governing records of identifiable personal information. The notice was published in the FEDERAL REGISTER on August 20, 1975 (40 FR 36545) with opportunity for public comment by September 22, 1975. The rules provide, among other things, the standards for the collection and maintenance of Commission records containing identifiable personal information, and procedures for the notification of, access to, and amendment of such records and for disclosure of such records to individuals other than those to whom the records pertain. The purpose of the adoption of the rules is to conform Commission procedures to the requirements of the Privacy Act of 1974, Pub. L. No. 93-579, 88 Stat. 1896.

No major changes have been made to the notice of proposed rulemaking.

The Commission finds:

(1) The notice and opportunity to participate in this rulemaking proceeding with respect to the matters presently before this Commission through the submission, in writing, of data, views, comments, and suggestions are in accordance with the procedural requirements prescribed by 5 U.S.C. 553.

(2) In view of the intent of Pub. L. No. 93-579 that the rules adopted herein become effective on September 27, 1975, good cause exists for making them effective on that date.

(3) The adoption of the rules as prescribed herein are necessary and appropriate for the administration of the Federal Power Act and the Natural Gas Act.

The Commission, acting pursuant to the provisions of the Federal Power Act, as amended, particularly section 309 (49 Stat. 858-859; 16 U.S.C. 825h), the Natural Gas Act, as amended, particularly Section 16 (52 Stat. 830; 15 U.S.C. 717o), and Pub L. No. 93-579 (88 Stat. 1896) *orders:*

(A) Part 3b, Subchapter A, Chapter I, Title 18 of the Code of Federal Regulations is adopted to read as follows:

Subpart A—General

Sec.
3b.1 Purpose.
3b.2 Definitions.
3b.3 Notice requirements.
3b.4 Government contractors.
3b.5 Legal guardians.

Sec.

3b.1 Purpose.
3b.2 Definitions.
3b.3 Notice requirements.
3b.4 Government contractors.
3b.5 Legal guardians.

Subpart B—Standards for Maintenance and Collection of Records

3b.201 Content of records.
3b.202 Collection of information from individuals concerned.
3b.203 Rules of conduct.
3b.204 Safeguarding information in manual and computer-based record systems.

Subpart C—Rules for Disclosure of Records

3b.220 Notification of maintenance of records to individuals concerned.
3b.221 Access of records to individuals concerned.
3b.222 Identification requirements.
3b.223 Fees.
3b.224 Requests to amend records and disputes thereon.
3b.225 Written consent for disclosure.
3b.226 Accounting of disclosures.
3b.227 Mailing lists.

Subpart D—Rules for Exemptions

3b.250 Specific exemptions.

Subpart A—General

§ 3b.1 Purpose.

Part 3b describes the Federal Power Commission's program to implement the provisions of the Privacy Act of 1974 (Pub. L. No. 93-579, 88 Stat. 1896) to allow individuals to have a say in the collection and use of information which may be used in determinations affecting them. The program is structured to permit an individual to determine what records pertaining to him and filed under his individual name, or some other identifying particular, are collected, maintained, used or disseminated by the Commission, to permit him access to such records, and to correct or amend them, and to provide that the Commission collect, use, maintain and disseminate such information in a lawful manner for a necessary purpose.

§ 3b.2 Definitions.

In this part:

(a) "Agency", as defined in 5 U.S.C. 551(1) as "* * * each authority of the Government of the United States, whether or not it is within or subject to review by another agency, * * *", includes any executive department, military department, Government corporation, Government controlled corporation, or other establishment in the executive branch of the Government (including the Executive Office of the President), or any independent regulatory agency [5 U.S.C. 552(e)];

(b) "Individual" means a citizen of the United States or an alien lawfully admitted for permanent residence;

(c) "Maintain" includes, maintain, collect, use, or disseminate;

(d) "Record" means any item, collection or grouping of information about an individual that is maintained by an agency, including, but not limited to, his education, financial transactions, medical history, and criminal or employment history and that contains his name, or the identifying number, symbol, or other identifying particular assigned to the individual, such as a finger or voice print or a photograph;

(e) "System of records" means a group of any records under the control of any agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying particular assigned to the individual;

(f) "Statistical record" means a record in a system of records maintained for statistical research or reporting purposes only and not used in whole or in part in making any determination about an identifiable individual, except as provided by section 8 of title 13 of the United States Code;

(g) "Routine use" means, with respect to the disclosure of a record, the use of such record for a purpose which is compatible with the purpose for which it was collected; and

(h) "Disclosure" means either the transmittal of a copy of a record or the granting of access to a record, by oral, written, electronic or mechanical communication.

§ 3b.3 Notice requirements.

(a) The Commission will publish at least annually in the FEDERAL REGISTER a notice identifying the systems of records currently maintained by the Commission. For each system of records, the notice will include the following information:

(1) The name and location of the system;

(2) The categories of individuals on whom records are maintained in the system;

(3) The categories of records maintained in the system;

(4) The specific statutory provision or executive order, or rule or regulation issued pursuant thereto, authorizing the maintenance of the information contained in the system;

(5) Each routine use of the records contained in the system, including the categories of users and the purposes of such use;

(6) The policies and practices regarding the storage, retrievability, access controls, and retention and disposal of the records;

(7) The title and business address of the Commission official who is responsible for the system of records;

(8) The procedures whereby an individual can be notified at his request if the system of records contains a record pertaining to him;

(9) The procedures whereby an individual can be notified at his request how he can gain access to any record pertaining to him contained in the system of records, and how he can contest its contents; and

(10) The categories of sources of records in the system.

(b) At least thirty days prior to its operation, the Commission will publish in the FEDERAL REGISTER a notice of its intention to establish a new system of records reciting the information required pursuant to paragraphs (a) (1)-(10) of this section and notice of any major change to an existing system.

(c) The Commission will publish in the FEDERAL REGISTER a notice of its intention to establish any new or intended routine use of the information in an existing system of records at least thirty days prior

to the disclosure of the record for that routine use. A new routine use is one which involves disclosure of records for a new purpose compatible with the purpose for which the record is maintained or which involves disclosure to a new recipient or category of recipients. At a minimum, the notice will contain the following information:

(1) The name of the system of records for which the routine use is to be established;

(2) The authority authorizing the maintenance of the information contained in the system;

(3) The categories of records maintained in the system;

(4) The proposed routine use(s);

(5) The categories of recipients for each proposed routine use; and

(6) Reference to the public notice in the FEDERAL REGISTER under which the existing system had already been published.

§ 3b.4 Government contractors.

Systems of records operated by a contractor, pursuant to a "contract," on behalf of the Commission, which are designed to accomplish a Commission function, are considered, for the purposes of this part, to be maintained by the Commission. A "contract" covers any contract, written or oral, subject to the Federal Procurement Regulations. The contractual instrument will specify, to the extent consistent with the Commission's authority to require it, that the systems of records be maintained in accordance with the requirements of this part.

§ 3b.5 Legal guardians.

For the purposes of this part, the parent of any minor, or the legal guardian of any individual who has been declared to be incompetent due to physical or mental incapacity or age by a court of competent jurisdiction, may act on behalf of the individual.

Subpart B—Standards for Maintenance and Collection of Records

§ 3b.201 Content of Records.

(a) All records which are maintained by the Commission in a system of records will contain only such information about an individual that is relevant and necessary to accomplish a purpose of the Commission as required to be accomplished by statute or by executive order of the President. Pursuant to section 3b.3 (a)(4) of this part, the Commission will identify in the FEDERAL REGISTER the specific provisions in law which authorize it to maintain information in a system of records. In determining the "relevance" and "necessity" of records, the following considerations will govern:

(1) Whether each item of information relates to the purposes, in law, for which the system is maintained;

(2) The adverse consequences, if any, of not collecting the information;

(3) Whether the need for the information could be met through the maintenance of the information in a non-individually identifiable form;

(4) Whether the information in the record is required to be collected on every individual who is the subject of a record in the system or whether a sampling procedure would suffice;

(5) The length of time it is necessary to retain the information;

(6) The financial cost of maintaining the record as compared to the adverse consequences of not maintaining it; and

(7) Whether the information, while generally relevant and necessary to accomplish a statutory purpose, is specifically relevant and necessary only in certain cases.

(b) All records which the Commission maintains in a system of records and which are used to make a determination about an individual will be maintained with such accuracy, relevance, timeliness, and completeness as is reasonably necessary to assure fairness to the individual in the determination. Where practicable, in questionable instances, reverification of pertinent information with the individual to whom the record pertains may be appropriate. In pursuit of "completeness" in the collection of information, the Commission will limit its records to those elements of information which clearly bear on the determination for which the records are intended to be used, assuring that all elements necessary to the determination are present before the determination is made.

(c) Prior to disseminating any records in a system of records, the Commission will make reasonable efforts to assure that such records are as accurate, relevant, timely, and complete as appropriate for the purposes for which they are collected and/or maintained, except when they are disclosed to a member of the public under the Freedom of Information Act, 5 U.S.C. 552, as amended, or to another agency.

(d) No records of the Commission in a system of records shall describe how any individual exercises his First Amendment rights unless expressly authorized by statute or by the individual about whom the record is maintained or unless pertinent to and within the scope of an authorized law enforcement activity. The exercise of these rights includes, but is not limited to, religious and political beliefs, freedom of speech and of the press, and freedom of assembly and petition. In determining whether or not a particular activity constitutes the exercise of a right guaranteed by the First Amendment, the Commission will apply the broadest reasonable interpretation.

§ 3b.202 Collection of information from individuals concerned.

(a) Any information collected by the Commission for inclusion in a system of records which may result in adverse determinations about an individual's rights, benefits, and privileges under Federal programs, will, to the greatest extent practicable, be collected directly from the subject individual [see paragraph (d) of this section].

(b) The Commission will inform each individual whom it asks to supply information about himself, on the form which it uses to collect the information, or on a separate sheet that can be easily retained by the individual, in language which is explicit, informative, and easily understood, and not so lengthy as to deter an individual from reading it, of:

(1) The specific provision of the statute or executive order of the President, including the brief title or subject of that statute or order which authorizes the solicitation of the information; whether disclosure of such information is mandatory or voluntary; and whether the Commission is authorized or required to impose penalties for failing to respond;

(2) The principal purpose or purposes for which the information is intended to be used;

(3) The routine uses which may be made of the information, as described in the FEDERAL REGISTER in the notice of the system of records in which the information is maintained, and which are relatable and necessary to a purpose described pursuant to paragraph (b)(2) of this section; and

(4) The effects (beneficial and adverse) on the individual if any, of not providing all or any part of the requested information.

(c) Social security numbers will not be required from individuals whom the Commission asks to supply information unless the disclosure of the number is required by Federal statute or unless disclosure is to the Commission maintaining a system of records in existence and operating before January 1, 1975, if such disclosure was required pursuant to a statute or regulation adopted prior to such date to verify the identity of an individual. When an individual is requested to disclose his social security number to the Commission, he will be informed under what statutory or other authority such number is solicited, what uses will be made of it, whether disclosure is mandatory or voluntary, and if it is mandatory, under what provisions of law or regulation.

(d) The use of third-party sources to collect information about an individual may be appropriate in certain circumstances. In determining when the use of third-party sources would be appropriate, the following considerations will govern:

(1) When the information needed can only be obtained from a third party;

(2) When the cost of collecting the information directly from the individual concerned far exceeds the cost of collecting it from a third party;

(3) When there is little risk that the information proposed to be collected from the third party, if inaccurate, could result in an adverse determination about the individual concerned.

(4) When there is a need to insure the accuracy of information supplied by an individual by verifying it with a third party, or there is a need to obtain a qualitative assessment of the individual's capabilities or character; or

(5) When there are provisions for verifying any third-party information with the individual concerned before making a determination based on that information.

Third party sources, where feasible, will be informed of the purposes for which information which they are asked to provide will be used. In appropriate circumstances, pursuant to 5 U.S.C. 552a (k) (2), (5), and (7), the Commission may assure a third party that his identity will not be revealed to the subject of the collected information.

§ 3b.203 Rules of conduct.

(a) The Executive Director of the Commission has the overall administrative responsibility for implementing the provisions of the Privacy Act of 1974 and overseeing the conduct of all Commission employees with respect to the Act.

(b) It is the responsibility of the Comptroller of the Commission, under the guidance of the Executive Director, to prepare the appropriate internal administrative procedures to assure that all persons involved in the design, development or operation of any system of records, or in collecting, using, or disseminating any individual record, and who have access to any system of records, are informed of all rules and requirements of the Commission to protect the privacy of the individuals who are the subjects of the records, including the applicable provisions of the FPC Standards of Conduct for Employees, Special Government Employees and Commissioners, specifically 18 CFR 3.207(e) and 3.228 (d).

(c) The Director, Office of Personnel Programs, is responsible for establishing and conducting an adequate training program for such persons whose official duties require access to and collection, maintenance, use, and dissemination of such records.

(d) The General Counsel of the Commission is responsible for providing legal interpretation of the Privacy Act of 1974, and for preparing all agency rules and notices for official publication in compliance with the Act.

(e) Commission employees will be informed of all the implications of their actions in this area, including especially:

(1) That there are criminal penalties for knowing and willful unauthorized disclosure of material within a system of records; for willful failure to publish a public notice of the existence of a system of records; and for knowingly and willfully requesting or obtaining records under false pretenses;

(2) That the Commission may be subject to civil suit due to failure to amend an individual's record in accordance with his request or failure to review his request in conformity with § 3b.224; refusal to comply with an individual's request of access to a record under § 3b.221; willful or intentional failure to maintain a record accurately pursuant to § 3b.201(b) and consequently a determination is made which is adverse to the individual; or willful or intentional failure to comply with any other provision of the Privacy Act of 1974, or any rule promulgated thereunder, in such a way as to have an adverse effect upon an individual.

§ 3b.204 Safeguarding information in manual and computer-based record systems.

(a) The administrative and physical controls to protect the information in the manual and computer-based record systems from unauthorized access or disclosure will be specified for each system in the FEDERAL REGISTER. The system managers, who are responsible for providing protection and accountability of such records at all times and for insuring that the records are secured in proper containers whenever they are not in use or under direct control of authorized persons, will be identified for each system of records in the FEDERAL REGISTER.

(b) Whenever records in the manual or computer-based record systems, including input and output documents, punched cards, and magnetic tapes or disks, are not under the personal control of an authorized person, they will be stored in lockable containers and/or in a secured room, or in alternative storage systems which furnish an equivalent or greater degree of physical security. In this regard, the Commission may refer to security guidelines prepared by the General Services Administration, the Department of Commerce (National Bureau of Standards), or other agencies with appropriate knowledge and expertise.

(c) Access to and use of records will only be permitted to persons pursuant to §§ 3b.221, 3b.224, and 3b.225. Access to areas where records are stored will be limited to those persons whose official duties require work in such areas. Proper control of data, in any form, associated with the manual and computer-based record systems will be maintained at all times, including maintenance of an accounting of removal of the records from the storage area.

Subpart C—Rules for Disclosure of Records

§ 3b.220 Notification of maintenance of records to individuals concerned.

(a) Upon written request, either in person or by mail, to the appropriate system manager specified for each system of records, an individual will be notified whether a system of records maintained by the Commission and named by the individual contains a record or records pertaining to him and filed under his individual name, or some other identifying particular.

(b) The system manager may require appropriate identification pursuant to § 3b.222, and if necessary, may request from the individual additional information needed to locate the record which the individual should reasonably be expected to know, such as, but not limited to, date of birth, place of birth, and a parent's first name.

(c) When practicable, the system manager will provide a written acknowledgement of the inquiry within ten days of receipt of the inquiry (excluding Saturdays, Sundays and legal public holidays) and notification of whether or not a system of records maintained by the Commission and named by the individual contains a record pertaining to him and filed under his individual name or some other identifying particular. If the system manager is unable to provide an answer within the ten-day period, he will so inform the individual in writing, stating the reasons therefor (for good cause shown), and when it is anticipated that notification will be made. Such an extension will not exceed fifteen days from receipt of the inquiry (excluding Saturdays, Sundays, and legal public holidays).

(d) "For good cause shown", as used in all sections of this part, includes circumstances such as the following: where a search for and/or collection of requested records from inactive storage, field offices, or other establishments is required; where a voluminous amount of data is involved; where information on other individuals must be separated or expunged from the record; or where consultations are required with other agencies or with others having a substantial interest in the determination of the request.

§ 3b.221 Access of records to individuals concerned.

(a) Upon written request, either in person or by mail, to the appropriate system manager specified for each system of records, any individual may gain access to records or information in a system of records pertaining to him and filed under his individual name, or some other identifying particular, to review and to have a copy made of all or any portion thereof in a form comprehensible to him.

(b) A person of his own choosing may accompany the individual to whom the record pertains when the record is disclosed [see § 3b.222(e)].

(c) Before disclosure, the following procedure may apply:

Medical or psychological records will be disclosed directly to the individual to whom they pertain unless, in the judgment of the system manager, in consultation with a medical doctor or a psychologist, access to such records could have an adverse effect upon the individual. When the system manager and a doctor determine that the disclosure of such information could have an adverse effect upon the individual to whom it pertains, the system manager may transmit such information to a medical doctor named by the requesting individual.

(d) The system manager will provide a written acknowledgement of the receipt of a request for access within ten days of receipt (excluding Saturdays, Sundays, and legal public holidays). Such acknowledgement may, if necessary, request any additional information needed to locate the record which the individual may reasonably be expected to know, and may require appropriate identification pursuant to § 3b.222 of this part. No acknowledgment is required if access can be granted within the ten-day period.

(1) If access can be granted, the system manager will notify the individual, in writing, as to when, and whether

access will be granted in person or by mail, so that access will be provided within twenty days of the receipt of the request (excluding Saturdays, Sundays, and legal public holidays). If the system manager is unable to provide access within twenty days of receipt of the request, he will inform the individual in writing as to the reasons therefor (for good cause shown), and when it is anticipated that access will be granted. If the expected date of access indicated in the written notification to the individual cannot be met, the system manager will advise the individual in writing of the delay, the reasons therefor (for good cause shown), and of a revised date when access will be granted. Such extensions will not exceed thirty days from receipt of the request (excluding Saturdays, Sundays, and legal public holidays).

(2) If access cannot be granted, the system manager will inform the individual, in writing, within twenty days of receipt of the request (excluding Saturdays, Sundays, and legal public holidays) of the refusal of his request; the reasons for the refusal; the right of the individual, within thirty days of receipt of the refusal, to request in writing a review of the refusal by the Chairman of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, or by an officer designated by the Chairman pursuant to § 3b.224(f); and the right of the individual to seek advice or assistance from the system manager in obtaining such a review.

(e) The Chairman, or officer designated pursuant to § 3b.224(f), not later than thirty days (excluding Saturdays, Sundays, and legal public holidays) from the date of receipt of the individual's request for review will complete such review, unless, for good cause shown, the Chairman, or designated officer, extends the thirty-day period in writing to the individual with reasons for the delay and the approximate date on which the review is expected to be completed. Such an extension will not exceed thirty-five days from receipt of the request for review (excluding Saturdays, Sundays and legal public holidays). The Chairman, or designated officer, will make one of the following determinations:

(1) Grant the individual access to the requested record and notify the individual, in writing, as to when, and whether access will be granted in person or by mail; or

(2) Inform the individual in writing of the refusal, the reasons therefor, and the right of the individual to seek judicial review of the refusal of his request for access.

(f)(1) The Commission will deny an individual access to the following records pertaining to him:

(i) Information compiled in reasonable anticipation of a civil action or proceeding;

(ii) Records listed in the FEDERAL REGISTER as exempt from certain provisions of the Privacy Act of 1974, pursuant to subpart D of this part; and

(iii) Records which may be required to be withheld under other statutory provisions.

(2) The Commission will not deny an individual access to a record pertaining to him because that record is permitted to be withheld from members of the public under the Freedom of Information Act, 5 U.S.C. 552, as amended.

(g) Disclosure of an original record will take place in the presence of the Commission representative having physical custody of the record.

§ 3b.222 Identification requirements.

The appropriate system manager specified for each system of records will require reasonable identification from individuals to assure that records in a system of records are disclosed to the proper person. Identification requirements will be consistent with the nature of the records being disclosed.

(a) Disclosure of records to the individual to whom the record pertains, or under whose name or some other identifying particular the record is filed, in person, requires that the individual show an identification card. Employee identification, a Medicare card, or a driver's license are examples of acceptable identification. Documents incorporating a picture and signature of the individual are preferred.

(b) For records disclosed by mail, the system manager will require certain minimum identifying information: name, date of birth, or the system's personal identifier if known to the individual. A comparison of the signatures of the requester and those in the record will be used to determine identity.

(c) If the system manager determines that the data in the record is so sensitive that unauthorized access could cause harm or embarrassment to the individual involved, a signed notarized statement asserting identity or some other reasonable means to verify identity will be required.

(d) If an individual can provide no suitable information or documents for identification, the system manager will require a signed statement from the individual asserting his identity and stipulating that the individual understands that knowingly or willfully seeking or obtaining access to records about an individual under false pretenses is a misdemeanor punishable by a fine of up to $5,000.

(e) The system manager will require an individual who wishes to be accompanied by another person when reviewing his records to furnish a signed written statement authorizing discussion of his records in the presence of the accompanying person.

(f) The appropriate identification requirements of this section may be required by a system manager from an individual to whom a record does not pertain who seeks access to the record pursuant to section 3b.225 of this part.

(g) No individual will be denied notification of maintenance of a record pursuant to § 3b.220 or access to a record pursuant to §§ 3b.221 and 3b.224 for refusing to disclose a social security number.

(h) No verification of identity will be required of individuals seeking notification of or access to records which are otherwise available to a member of the public under the Freedom of Information Act, 5 U.S.C. 552, as amended.

§ 3b.223 Fees.

(a) Fees will be charged for the direct cost of duplication of records in a system of records when copies are requested by the individual seeking access to the records. Any person may obtain a copy of the Commission's schedule of fees by telephone, by mail or by coming in person to the office of the appropriate system manager who is responsible for the protection and accountability of the desired record. Requests for copies of requested records and payment therefor must be made to the system manager. Fees will only be charged for costs of $2 or more.

(b) Where practicable, self-service duplication of requested documents may also be made on duplicating machines by the person requesting the records, on a reimbursable basis to the system manager, in the presence of the Commission representative having physical custody of the record. Where data has been extracted from one of the Commission's systems of records on magnetic tape or disks, or computer files, copies of the records of these files may be secured on a reimbursable basis upon written request to the appropriate system manager. The fee will vary for each requirement, depending on size and complexity.

(c) No fee will be charged in the following instances: (1) when the system manager determines that he can grant access to records only by providing a copy of the record through the mail because he cannot provide reasonable means for the individual to have access in person; (2) for search and review of requested records to determine if they fall within the disclosure requirements of this part; and (3) when the system manager makes a copy of the record as a necessary part of the process of making it available for review.

(d) Except for requests made by Government agencies, certification of copies of any official Commission record shall be accompanied by a fee of $2 per document.

§ 3b.224 Requests to amend records and disputes thereon.

(a) Upon written request, either in person or by mail, to the appropriate system manager specified for each system of records, any individual may amend records in a system of records pertaining to him and filed under his individual name or some other identifying particular. Such requests should contain identifying information needed to locate the record, a brief description of the item or items of information to be amended, and information in support of the request for amendment. The individual may obtain assistance in preparing his request to amend a record from the appropriate system manager.

(b) The system manager will provide a written acknowledgement of the receipt of a request to amend within ten days of receipt (excluding Saturdays,

Sundays, and legal public holidays). Such an acknowledgement may, if necessary, request any additional information needed to make a determination which the individual may reasonably be expected to know, and verification of identity consistent with § 3b.222. The acknowledgement will clearly describe the request and advise the individual requesting the amendment when he may expect to be notified of action taken on the request. No acknowledgement is required if the request can be reviewed, processed, and the individual notified of compliance or denial within the ten-day period.

(c) The system manager will complete the review and advise the individual in writing of the results within twenty days of the receipt of the request (excluding Saturdays, Sundays, and legal public holidays). If the system manager is unable to complete the review within twenty days of the receipt of the request, he will inform the individual in writing as to the reasons therefor (for good cause shown) and when it is anticipated that the review will be completed. If the completion date for the review indicated in the acknowledgement cannot be met, the system manager will advise the individual in writing of the delay, the reasons therefor (for good cause shown), and of a revised date when the review may be expected to be completed. Such extensions will not exceed thirty days from receipt of the request (excluding Saturdays, Sundays, and legal public holidays). The system manager will take one of the following actions:

(1) Make the requested correction or amendment; so advise the individual in writing; and, where an accounting of the disclosure of the record was made pursuant to § 3b.226, advise all previous recipients of the record in writing of the fact that the amendment was made and the substance of the amendment [see § 3b.225(d)]; or

(2) Inform the individual in writing of the refusal to amend the record in accordance with the request; the reasons for the refusal including any of the standards which were employed pursuant to paragraph (d) of this section in conducting the review; the right of the individual, within thirty days of receipt of the refusal, to request in writing a review of the refusal by the Chairman of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, or by an officer designated by the Chairman pursuant to paragraph (f) of this section; and the right of the individual to seek advice or assistance from the system manager in obtaining such a review.

(d) In reviewing a record in response to a request to amend, the system manager and the Chairman, or the officer he designates pursuant to paragraph (f) of this section, shall assess the accuracy, relevance, timeliness and completeness of the record. They shall consider the record in terms of the criteria established in section 3b.201 of this part.

(e) The Chairman, or officer designated pursuant to paragraph (f) of this section, not later than thirty days (excluding Saturdays, Sundays, and legal public holidays) from the date of receipt of the individual's request for review, will complete such review, unless, for good cause shown, the Chairman, or designated officer, extends the thirty-day period in a writing to the individual with reasons for the delay and the approximate date on which the review is expected to be completed. Such an extension will not exceed thirty-five days from receipt of the request for review (excluding Saturdays, Sundays, and legal public holidays). The Chairman, or designated officer, will make one of the following determinations:

(1) Make the correction in accordance with the individual's request and proceed as in subsection (c)(1) of this section; or

(2) Inform the individual in writing of (i) the refusal to amend the record in accordance with the request, (ii) the reasons therefor, including any of the standards which were employed pursuant to paragraph (d) of this section in conducting the review; (iii) the right of the individual to file with the Chairman, or designated officer, a concise written statement setting forth the reasons for his disagreement with the decision; (iv) the fact that the statement of disagreement will be made available to anyone to whom the record is subsequently disclosed, together with the portion of the record which is disputed clearly noted, and, with, at the discretion of the Chairman, or designated officer, a brief statement by the Chairman, or designated officer, summarizing the reasons for refusing to amend the record; (v) where an accounting of the disclosure of the record was made pursuant to section 3b.226 of this part, the fact that prior recipients of the disputed record will be provided a copy of the individual's statement of disagreement, with the portion of the record which is disputed clearly noted, and, at the Chairman's or designated officer's discretion, the statement summarizing the refusal to amend [see § 3b.225(d)]; and (vi) the individual's right to seek judicial review of the refusal to amend.

(f) The Chairman may designate, in writing, another officer of the Commission to act in his capacity for the purposes of this part. The officer will be organizationally independent of or senior to the system manager who made the initial determination and will conduct a review independent of the initial determination.

§ 3b.225 Written consent for disclosure.

(a) The Commission will not disclose any record which is contained in a system of records by any means of communication to any person, or to any other agency, unless it has the written request by, or the prior written consent of, the individual to whom the record pertains and under whose individual name, or some other identifying particular, the record is filed. The written request or consent should include, at a minimum, the general purposes for or the types of recipients to whom disclosure may be made. The fact that an individual is informed of the purposes for which information will be used when information is collected pursuant to § 3b.202(b)(2) will not constitute consent.

(b) A written request or consent is not required if the disclosure is:

(1) To those officers and employees of the Commission who have a need for the record in the performance of their duties;

(2) Required under the provisions of the Freedom of Information Act, 5 U.S.C. 552, as amended;

(3) For a routine use as defined in subsection 3b.2(g) of this part and as described in the public notice for each system of records;

(4) To the Bureau of the Census for purposes of planning or carrying out a census or survey or related activity pursuant to the provisions of title 13 of the United States Code;

(5) To a recipient who has provided the appropriate system manager specified for each system of records with advance adequate written assurance that the record will be used solely as a statistical research or reporting record, and the record is to be transferred in a form that is not individually identifiable. The written statement of assurance should include at a minimum:

(i) A statement of the purpose for requesting the record; and

(ii) Certification that the record will only be used for statistical purposes.

In addition to stripping personally identifying information from records released for statistical purposes, the system manager will ensure that the identity of the individual cannot reasonably be deduced or determined by combining various statistical records, or by reference to public records or other available sources of information;

(6) To the National Archives of the United States, pursuant to 44 U.S.C. 2103, as a record which has sufficient historical or other value to warrant its continued preservation by the United States Government, or for the evaluation by the Administrator of General Services or his designee to determine whether the record has such value;

(7) To another agency or to an instrumentality of any governmental jurisdiction within or under the control of the United States for a civil or criminal law enforcement activity if the activity is authorized by law, and if the head of the agency or instrumentality, or his delegated official, has made a written request to the appropriate system manager specifying the particular portion of the record desired and the law enforcement activity for which the record is being sought;

(8) To a person pursuant to a showing of compelling circumstances affecting the health or safety of an individual (not necessarily the individual to whom the record pertains), if, upon disclosure, notification of such is sent to the last known address of the individual to whom the record pertains;

(9) To either House of Congress, or to any committee or subcommittee thereof, on a matter within its jurisdiction;

(10) To the Comptroller General, or any of his authorized representatives, in the course of the performance of the duties of the General Accounting Office; or

(11) Pursuant to the order of a court of competent jurisdiction.

(c) When a record is disclosed under compulsory legal process and such process becomes a matter of public record, the system manager will make reasonable efforts to notify the individual to whom the record pertains. A notice will be sent to the individual's last known address noted in the Commission's files.

(d) The appropriate system manager shall notify all prior recipients of records, disclosure to whom an accounting was made pursuant to § 3b.226, of any amendments made to the records, including corrections, amendments and notations of dispute made pursuant to §§ 3b.224(c)(1) and 3b.224(e)(1) and (2)(v), within ten days of receipt of the corrected information or notation of dispute (excluding Saturdays, Sundays, and legal public holidays), except under unusual circumstances [see circumstances described in § 3b.220(d)].

(e) The content of the records disclosed under this section shall be maintained pursuant to the standards established in § 3b.201(c).

§ 3b.226 Accounting of disclosures.

(a) The appropriate system manager specified for each system of records will keep an accurate written account of all disclosures of records made to any person or to any other agency with the written consent or at the written request of the individual to whom the record pertains and pursuant to §§ 3b.225(b)(3)–(11). The account will include the following information:

(1) The date, nature, and purpose of each disclosure;

(2) The name and address of the person or agency to whom the disclosure is made; and

(3) A reference to the justification or basis upon which the release was made, including reference to any written document required as when records are released for statistical or law enforcement purposes pursuant to §§ 3b.225(b)(5) and (7).

(b) Each system manager will retain the accounting made under paragraph (a) of this section for at least five years from the date of disclosure for which the accounting is made, or the life of the record, which ever is longer.

(c) Except for disclosures made for law enforcement purposes pursuant to § 3b.225(b)(7), and unless the system of records has been exempted from this provision pursuant to subpart D of this part, each system manager will make the accounting made under paragraph (a) of this section available to the individual named in the record at his written request.

(d) The accounting of disclosures is not a system of records under the definition in § 3b.2(e) and no accounting will be maintained for disclosure of the accounting of disclosures.

§ 3b.227 Mailing lists.

An individual's name and address maintained by the Commission will not be sold or rented for commercial or other solicitation purposes not related to the purposes for which the information was collected, unless such sale or rental is specifically authorized by law. This provision shall not be construed to require the withholding of names or addresses otherwise permitted to be made public, as pursuant to the Freedom of Information Act, 5 U.S.C. 552, as amended.

Subpart D—Rules for Exemptions

§ 3b.250 Specific exemptions.

Any system of records maintained by the Commission may be exempt from certain provisions of the Privacy Act of 1974, and the appropriate sections of this part promulgated pursuant thereto, if the following requirements are met:

(a) The system of records falls within one or more of the following categories:

(1) Records subject to the provisions of 5 U.S.C. 552(b)(1) as classified material;

(2) Investigatory material compiled for law enforcement purposes [except to the extent that the system is more broadly exempt under 5 U.S.C. 552a(j)(2) covering records maintained by an agency whose principal function pertains to the enforcement of criminal laws] provided, however, that is such record is used as a basis for denying an individual any right, privilege, or benefit to which the individual would be entitled in the absence of that record, the individual must be granted access to that record except to the extent that access would reveal the identity of a confidential source who furnished the information to the Government under an express promise that his identity would be held in confidence, or, prior to September 27, 1975, under an implied promise that his identity would be held in confidence;

(3) Records maintained to provide protective services to the President of the United States or other individuals pursuant to 18 U.S.C. 3056;

(4) Records required by statute to be maintained and used solely as statistical records;

(5) Investigatory material compiled solely for determining suitability, eligibility, or qualifications for Federal civilian employment, military service, Federal contracts, or access to classified information, but only to the extent that disclosure of such material would reveal the identity of a source who furnished information to the Government under an express promise that his identity would be held in confidence, or, prior to September 27, 1975, under an implied promise that his identity would be held in confidence;

(6) Testing or examination material used solely to determine individual qualifications for appointment or promotion in the Federal service the disclosure of which would compromise the objectivity or fairness of the testing or examination process; or

(7) Material used to evaluate potential for promotion in the armed services, but only to the extent that the disclosure of such material would reveal the identity of a source who furnished the information to the Government under an express promise that his identity would be held in confidence, or, prior to September 27, 1975, under an implied promise that his identity would be held in confidence;

(b) Publication in the FEDERAL REGISTER is made in accordance with the requirements (including general public notice) of the Administrative Procedure Act, 5 U.S.C. 553, to include, at a minimum:

(1) The name of the system of records;

(2) The specific provision or provisions of the Privacy Act of 1974, and the appropriate sections of this part promulgated pursuant thereto, from which the system is to be exempted; and

(3) The reasons for the exemption; and

(c) The system of records is exempted from one or more of the following provisions of the Privacy Act and the appropriate sections of this part promulgated pursuant thereto:

(1) 5 U.S.C. 552a(c)(3); 18 C.F.R. 3b.226(c)—Making the accounting of disclosures available to the individual named in the record at his request;

(2) 5 U.S.C. 552a(d); 18 C.F.R. 3b.221, 3b.224—Granting an individual the right of access to his records and permitting him to request amendment of such;

(3) 5 U.S.C. 552a(e)(1); 18 C.F.R. 3b.201(a)—Requiring maintenance of relevant and necessary information in a system of records as required by statute or executive order of the President;

(4) 5 U.S.C. 552a(e)(4)(G); 18 C.F.R. 3b.3(a)(8)—Requiring a description of procedures for determining if a system contains a record on an individual in the public notice of the system of records;

(5) 5 U.S.C. 552a(e)(4)(H); 18 C.F.R. 3b.3(a)(9)—Requiring a description of procedures for gaining access to and contesting the contents of a record in the public notice of the system of records;

(6) 5 U.S.C. 552a(e)(4)(I); 18 C.F.R. 3b.3(a)(10)—Requiring a description of the categories of the sources of records in the public notice of the system of records; and

(7) 5 U.S.C. 552a(f); 18 C.F.R. 3b.220–3b.224—Requiring agency rules for determining if an individual is the subject of a record, for handling requests for access, for granting requests for access, for amending records, and for fees.

(B) The rules adopted herein shall be effective as of September 27, 1975.

(C) The Secretary shall cause prompt publication of this order to be made in the FEDERAL REGISTER.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.75-25715 Filed 9-24-75;8:45 am]