United States. Congress. House. Committee on Interstate and Foreign Commerce. Subcommittee on Transportation and Commerce.

NOISE CONTROL ACT EXTENSION

4 - JUN 16
Copy 1975

HEARINGS

BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

NINETY-FOURTH CONGRESS

FIRST SESSION

ON

H.R. 5272

A BILL TO AMEND THE NOISE CONTROL ACT OF 1972 TO AUTHORIZE ADDITIONAL APPROPRIATIONS

MARCH 24 AND 25, 1975

Serial No. 94–9

Printed for the use of the
Committee on Interstate and Foreign Commerce

U.S. GOVERNMENT PRINTING OFFICE
52-021 O WASHINGTON : 1975

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

HARLEY O. STAGGERS, West Virginia, *Chairman*

TORBERT H. MACDONALD, Massachusetts
JOHN E. MOSS, California
JOHN D. DINGELL, Michigan
PAUL G. ROGERS, Florida
LIONEL VAN DEERLIN, California
FRED B. ROONEY, Pennsylvania
JOHN M. MURPHY, New York
DAVID E. SATTERFIELD III, Virginia
BROCK ADAMS, Washington
W. S. (BILL) STUCKEY, JR., Georgia
BOB ECKHARDT, Texas
RICHARDSON PREYER, North Carolina
JAMES W. SYMINGTON, Missouri
CHARLES J. CARNEY, Ohio
RALPH H. METCALFE, Illinois
GOODLOE E. BYRON, Maryland
JAMES H. SCHEUER, New York
RICHARD L. OTTINGER, New York
HENRY A. WAXMAN, California
ROBERT (BOB) KRUEGER, Texas
TIMOTHY E. WIRTH, Colorado
PHILIP R. SHARP, Indiana
WILLIAM M. BRODHEAD, Michigan
W. G. (BILL) HEFNER, North Carolina
JAMES J. FLORIO, New Jersey
ANTHONY TOBY MOFFETT, Connecticut
JIM SANTINI, Nevada
ANDREW MAGUIRE, New Jersey

SAMUEL L. DEVINE, Ohio
JAMES T. BROYHILL, North Carolina
TIM LEE CARTER, Kentucky
CLARENCE J. BROWN, Ohio
JOE SKUBITZ, Kansas
JAMES F. HASTINGS, New York
JAMES M. COLLINS, Texas
LOUIS FREY, JR., Florida
JOHN Y. MCCOLLISTER, Nebraska
NORMAN F. LENT, New York
H. JOHN HEINZ III, Pennsylvania
EDWARD R. MADIGAN, Illinois
CARLOS J. MOORHEAD, California
MATTHEW J. RINALDO, New Jersey

W. E. WILLIAMSON, *Clerk*
KENNETH J. PAINTER, *Assistant Clerk*

Professional Staff

ROBERT F. GUTHRIE
CHARLES B. CURTIS
LEE S. HYDE
JOHN L. GAMBLE
ELIZABETH HARRISON
JEFFREY H. SCHWARTZ
JAMES M. MENGER, JR.
WILLIAM P. ADAMS
ROBERT R. NORDHAUS

SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE

FRED B. ROONEY, Pennsylvania, *Chairman*

BROCK ADAMS, Washington
RALPH H. METCALFE, Illinois
W. G. (BILL) HEFNER, North Carolina
JIM SANTINI, Nevada
JAMES J. FLORIO, New Jersey
HARLEY O. STAGGERS, West Virginia (Ex Officio)

JOE SKUBITZ, Kansas
JAMES F. HASTINGS, New York
SAMUEL L. DEVINE, Ohio (Ex Officio)

WILLIAM L. KOVACS, *Counsel*
LEROY C. CORCORAN, *Counsel*

KF27
.I558
1975c

CONTENTS

Hearings held on— Page
March 24, 1975 1
March 25, 1975 57
Text of H.R. 5272 3
Statement of—
Boyd, Dr. Daniel, Director, Office of Standards Development, Department of Labor 26
Close, William H., Acting Director, Office of Noise Abatement, Department of Transportation 57
Eyster, Rodney E., General Counsel, Department of Transportation 57
Fox, Arthur, director, PROD 35
Hinton, Lloyd, legislative and technical consultant, National Organization To Insure a Sound Controlled Environment 68
Meister, Frederick A., Acting Associate Administrator for Policy Development and Review, Federal Aviation Administration, Department of Transportation 57
Meyer, Dr. Alvin F., Jr., Deputy Assistant Administrator for Noise and Control, Environmental Protection Agency 5
Mintz, Benjamin W., Associate Solicitor, Department of Labor 26
Schulte, Howard J., Deputy Assistant Secretary, Occupational Safety and Health, Department of Labor 26
Shutler, Dr. Norman D., Director, Mobile Source Enforcement Division, Environmental Protection Agency 5
Strelow, Roger, Assistant Administrator for Air and Waste Management, Environmental Protection Agency 5
Van Atta, Dr. Floyd, Industrial Hygienist, Department of Labor 26
Additional material submitted for the record by:
Environmental Protection Agency, letter dated August 16, 1974, from Deputy Administrator Quarles, to heads of various departments and agencies (list attached), re noise descriptor methodologies, adopted and used by EPA, and recommended to other Federal agencies 10
Letter dated October 1, 1974, from Secretary of Transportation Claude S. Brinegar replying to above August 16, 1974 letter 12
Labor Department, letter dated April 18, 1975, from Mr. Schulte to Chairman Rooney re number of employee complaints about excessive noise in the workplace 34
National Organization To Insure a Sound Controlled Environment, attachments to Mr. Hinton's prepared statement:
Report of The Boeing Co., "Effects of Aircraft Operation on Community Noise," dated June 1971 77
NOISE testimony on "Proposed New Medium and Heavy Duty Trucks and New Portable Air Compressor Noise Emission Standards" on February 20, 1975 87
NOISE testimony on "Noise Abatement Minimum Altitudes Within Terminal Areas: Turbojet Powered Airplanes," (FAA Notice 74-40), March 5, 1975 88
NOISE comments for the docket on "Recommended Notice of Proposed Rulemaking on Civil Subsonic Turbojet Engine-Powered Airplanes Noise Retrofit Requirements" (ONAC Notice 74-4), dated March 12, 1975 92
Roy P. Jackson, Assistant Administrator, NASA, "Putting All Our Noise Control Technology to Work," *Astronautics and Aeronautics*, January 1975 94
NOISE recommended Federal legislative program outline dated February 1975 98

Additional material submitted—Continued
PROD:
Excerpts from a letter dated September 27, 1973, from EPA Administrator Train to OMB Director Ash re noise control ... Page 41
Letter dated October 15, 1974, from nine Senators to Administrator Train re manner in which EPA is implementing the Noise Control Act ... 44
Letter dated October 21, 1974, from Administrator Train to Senator Tunney in response to above letter ... 46
Transportation Department, FAA noise control actions ... 61

ORGANIZATIONS REPRESENTED AT HEARINGS

Environmental Protection Agency:
- Meyer, Dr. Alvin F., Jr., Deputy Assistant Administrator for Noise Abatement and Control.
- Shutler, Dr. Norman D., Director, Mobile Source Enforcement Division.
- Strelow, Roger, Assistant Administrator for Air and Waste Management.

Labor Department:
- Boyd, Dr. Daniel, Director, Office of Standards Development.
- Mintz, Benjamin W., Associate Solicitor.
- Schulte, Howard J., Deputy Assistant Secretary, Occupational Safety and Health.
- Van Atta, Dr. Floyd, Industrial Hygienist.

National Organization to Insure a Sound Controlled Environment, Lloyd Hinton, legislative and technical consultant.

PROD, Arthur Fox, director.

Transportation Department:
- Close, William H., Acting Director, Office of Noise Abatement.
- Eyster, Rodney E., General Counsel.
- Meister, Frederick A., Acting Associate Administrator for Policy Development and Review, Federal Aviation Administration.

NOISE CONTROL ACT EXTENSION

MONDAY, MARCH 24, 1975

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 2 p.m., pursuant to notice, in room 2218, Rayburn House Office Building, Hon. Fred. B. Rooney, chairman, presiding.

Mr. ROONEY. The purpose of this subcommittee hearing is to consider an extension of the authorization of the Noise Control and Abatement Act of 1972.

The bill before this subcommittee, H.R. 5272 is quite simple. Section 1 extends, for 27 months, the authorization for appropriaitons for section 15 of the Noise Control Act of 1972.

This section provides authority to EPA to certify certain products as to low-noise-emission products that can be used as a substitute for products that are presently being used by the Federal Government that are not low-noise emission.

Section 2 provides for a 27-month extension of the Noise Control Act of 1972.

The fundamental purpose of limiting the time period for such authorization is to permit the Congress to periodically review the effects of the legislation it enacted and to reaffirm or alter its commitment to the legislative policies of previous Congresses in their responses to different political climates.

Today, we must examine the Noise Control Act, the assumptions behind its enactment and its effects. Further, we must ask ourselves what, if anything, we hope to achieve by continuing this act.

The standard for determining whether or not to extend a legislative program should be whether the purposes set out by the Congress in its last authorization can be accomplished by the structure of the legislation in question today.

If, after the evidence is gathered, this committee determines that the existing structure of the Noise Control Act cannot accomplish the objectives of the Congress, then, we must amend the law so as to achieve our objectives.

If the existing structure is sufficient to achieve the purposes of the Congress, presumably an abatement of noise, then we must ask whether the act is effectively administered. In making this determination, this subcommittee must gage the extent to which the actions of the responsible agencies are fulfilling the intent of the Congress.

Last, if the structure of the act is sound and the agencies' actions are responsible, then the amount of the authorization that this subcommittee makes will determine our efforts in achieving the policies established by the Congress.

Without objection the text of H.R. 5272 will be printed at this point in the record.

[The text of H.R. 5272 follows:]

94TH CONGRESS
1ST SESSION

H. R. 5272

IN THE HOUSE OF REPRESENTATIVES

MARCH 20, 1975

Mr. ROONEY introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To amend the Noise Control Act of 1972 to authorize additional appropriations.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That subsection (g) of section 15 of the Noise Control Act
4 of 1972 (42 U.S.C. 4914 (g)) is amended by striking out
5 the period at the end thereof and substituting a comma and
6 the following: "$2,200,000 for the fiscal year ending June 30,
7 1976, $550,000 for the transition period of July 1, 1976,
8 through September 30, 1976, and $2,420,000 for the fiscal
9 year ending September 30, 1977.".
10 SEC. 2. Section 19 of the Noise Control Act of 1972
11 (42 U.S.C. 4918) is amended by striking out "and" and

1 by inserting immediately before the period at the end there-
2 of "; $13,200,000 for the fiscal year ending June 30, 1976;
3 $3,300,000 for the transition period of July 1, 1976, through
4 September 30, 1976; and $14,520,000 for the fiscal year
5 ending September 30, 1977".

Mr. ROONEY. Our first witness today is Mr. Roger Strelow, Assistant Administrator for Air and Waste Management, Environmental Protection Agency.

Will you kindly introduce your associates for the record.

STATEMENT OF ROGER STRELOW, ASSISTANT ADMINISTRATOR FOR AIR AND WASTE MANAGEMENT, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY DR. ALVIN F. MEYER, JR., DEPUTY ASSISTANT ADMINISTRATOR FOR NOISE ABATEMENT AND CONTROL; AND DR. NORMAN D. SHUTLER, DIRECTOR, MOBILE SOURCE ENFORCEMENT DIVISION

Mr. STRELOW. Thank you.

On my left is Dr. Alvin F. Meyer, Jr., Deputy Assistant Administrator for Noise Abatement and Control. On my right is Dr. Norman D. Shutler, Director of the Mobile Source Enforcement Division in EPA's Office of Enforcement.

This is my first appearance before this subcommittee. It is a pleasure to be here and to have the opportunity to outline briefly our implementation of the Noise Control Act of 1972 in support of the extension of our expiring authorities.

The Noise Control Act defines environmental noise to mean the intensity, duration, and the character of sound from all sources. In common usage, noise is simply defined as unwanted sound.

The purposes of the act are to establish a means for effective coordination of Federal research and activities in noise control, to authorize the establishment of Federal noise-emission standards for products distributed in commerce, and to provide information to the public respecting the noise-emission and noise-reduction characteristics of such products.

To provide a foundation for accomplishing these principal objectives, EPA was required to publish two basic documents, which have become known as the "Criteria Document," and the "Levels Document."

The "Criteria Document," published in July 1973, reflects the kind and extent of identifiable effects on the public health and welfare which may be expected from differing quantities and qualities of noise. The "Levels Document" was published in March 1974, and provides information on maximum levels of environmental noise that should not be exceeded in various areas and under various conditions in order to protect the public health and welfare with an adequate margin of safety. With the publication of the "Levels Document" we had for the first time a comprehensive framework in which to assess nationally the impact of noise from various products.

The evaluation in our Levels Document indicates that continuous exposure to urban environmental noise levels averaging more than a 70 decibel level over a 24-hour period may be harmful to health, especially when combined with shorter, more intense noise exposures in the workplace, during travel and at recreational pursuits. An estimated 13 million people presently reside in areas where this level is exceeded. Further, an estimated 100 million people reside in areas where the decibel level, computed on a weighted day-night basis, exceeds 55 decibels. This weighted basis refers to the fact that more credit is given in effect to the noise that occurs at night because of the greater disturb-

ing effect it has, the lower background noise levels, et cetera. Although adverse health effects may not be perceptible at this level, many people find it annoying. The major sources of community noise include vehicular traffic, aircraft operations, and construction site machinery.

Our program plan allocates resources for development of regulations and related activities designed to reduce the population exposed to noise levels, which may be harmful to health, from the estimated 13 million people to less than 1 million by 1992. Concurrently, the roughly 100 million people exposed to annoying levels of noise would be reduced to less than 40 million.

The present strategy for achieving these goals calls for the application of technology that is either existing or anticipated as a result of research now underway. This technology will be applied principally in new product regulations. The regulations are intended to be in effect by no later than 1982, with earlier requirements in many cases. We estimate about a 10-year turnover in most of the regulated product population so that widespread implementation of our stringent regulations is anticipated by 1992. Thus, the year 1992 is a target date based on the time to effect noise reduction by application of the technology now seen as being available to the major sources of noise, together with the phaseout of existing products which are not subject to regulation.

The Noise Control Act calls for new product standards limiting noise emissions for any product, or class of products, identified as a major noise source within one of four categories: construction equipment, transportation equipment, including recreational vehicles, any motor or engine, and electrical or electronic equipment. Discretionary authority is also provided to prescribe standards for any other products for which standards are feasible and necessary to protect the public health and welfare.

The first products identified as major sources of noise were medium- and heavy-duty trucks and portable air compressors. Proposed rules have been published and hearings have been held for both. We expect final regulations will be promulgated by the end of June.

The second set of products tentatively identified for new product regulations includes buses, motorcycles, wheeled and tracked earth-moving equipment, wheeled and tracked earth-loading equipment, truck mounted solid waste compactors and truck mounted refrigeration equipment. It is anticipated that the third and fourth sets of products will be identified in fiscal year 1976, which will cover most noise sources identified in the act. Items now being considered for identification for the third list include: chainsaws, lawnmowers, small engine-powered tools and automobiles. Additional products will be identified in subsequent years.

In addition to the new product standards, we were charged with establishing noise-emission standards for existing interstate motor carriers and interstate railroad facilities and equipment. Motor carrier regulations have finally been promulgated, and railroad regulations have been proposed. The latter have been delayed because of major concerns expressed regarding the economic impact. I need not elaborate on the significance of this point for the members of this subcommittee. Once EPA regulations are made final, the Department of Transportation is required to issue regulations to insure compliance

and to enforce the motor carrier and railroad regulations. DOT has proposed regulations for compliance with our interstate motor carrier regulations that are now in effect.

Perhaps the most controversial—certainly, the most publicized—aspect of the noise abatement program is the aircraft and airport segment. The Noise Control Act contains a unique provision relating to noise generated by civil aviation. Under this provision, EPA was directed to review aircraft and airport noise-control practices and to submit a report to Congress on its findings, which was done in July 1973. In this report, we estimate that 16 million people are presently exposed to aircraft noise levels with effects ranging from moderate to very severe. The act provides that after submission of this report, EPA must propose to the Federal Aviation Administration noise abatement regulations necessary to protect the public health and welfare.

The FAA must publish such proposed regulations and hold hearings on them. An elaborate procedure for public communication between EPA and FAA designed to resolve disagreements is set out in the act. However, the final decision to modify or adopt new regulations is the responsibility of FAA, as is the enforcement.

To date, EPA has submitted proposals to FAA relating to minimum altitudes for approaches to landings by turbojet-powered airplanes, noise standards for small propeller-driven aircraft; a retrofit program, calling for the use of sound-absorption materials in civil subsonic turbojets and establishing a fleet noise level reporting requirement and controls on subsonic noise emissions from current and future design supersonic airplanes. These recommendations are being published by the FAA as Notices of Proposed Rulemaking.

For airport noise control, proposed requirements are currently being reviewed and tested at a number of representative airports prior to formal EPA proposal.

Our labeling authority will be largely directed toward those situations where the individual's exposure to noise has health significance that can be substantially controlled by personal protective equipment. It will also be used to indicate noise levels of products to assist the consumer in making a choice of a product to be purchased.

In view of EPA's responsibility to coordinate Federal programs relating to noise research and noise control, EPA established four interagency noise-research panels, early in 1974, to facilitate exchange of information and to coordinate Federal noise-research activities.

Eleven departments and agencies participate in the following four functional areas: noise effects—which represent the broadest Federal involvement, machinery noise, aircraft noise and surface-vehicle noise. The latter category is, of course, focusing on the control technology. The panels review and assess the status of research and technological development, and they serve as a structure for our noise research coordination activities. With the help of these panels, we expect to conduct an in-depth analysis of all Federal noise research programs.

We also use the environmental impact statement review process to insure that noise and its environmental effects are given adequate consideration in Federal activities. Further, we monitor observance of Executive Order 11752, which requires Federal facilities to comply with Federal, State, interstate and local noise regulations and which

provides for coordination of Federal noise-abatement projects to reduce noise impact from Federal facilities.

To achieve consistency, the act requires all Federal agencies to consult with EPA before prescribing standards or regulations respecting noise. As you know, of course, under the Noise Control Act, other Federal agencies still retain some degree of authority to regulate noise in various aspects.

Under this program, we are continuing to review the requirements which have been proposed by the Labor Department's Occupational Safety and Health Administration (OSHA) to control noise in the workplace. As you may know, we have expressed serious reservations concerning OSHA's pending proposal. We have also recommended more stringent standards for motor vehicle interiors to the Department of Transportation.

With the pending promulgation of the first new product noise emission standards, for medium- and heavy-duty trucks and portable air compressors, our enforcement program is being accelerated. Both of these standards will be implemented through procedures which enable us, by tests performed on initial production models, to determine whether the products will comply with the standards. Since the possibility exists that production subsequent to the initial startup may not conform, a selective assembly line testing procedure is also included in the proposed enforcement strategy. In this respect, we may request that the manufacturer test products coming off the assembly line at his own facility or supply such products to EPA to test.

An EPA noise test facility currently is being readied to test noise emissions from both new products and products in use. Products in use may be tested because the possibility exists that products might be distributed which were not in compliance when sold or which, even though properly maintained and used, may at some point fail to conform. In the event that a particular product is discovered to be in noncompliance during use, the proposed regulations provide that the Administrator may issue an order requiring recall and correction at no expense to the user.

Issuance of new product regulations triggers the antitampering provisions of the act, which prohibit the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of devices or elements of design incorporated into the product to bring it into compliance with the particular standard.

This, I believe, highlights our activities to date under the Noise Control Act.

In closing, I would like to add that we believe it is possible to achieve the objectives of the Noise Control Act to reduce or eliminate the adverse effects of noise in a cost-effective manner. We believe that our approach has been consistent with the underlying philosophy and direction of the act.

I would like to refer briefly to your very appropriate opening remarks concerning the need to review this and other pieces of legislation periodically to make sure that, first of all, it is possible of achievement as written and, second, whether it is, in fact, being implemented as intended. We feel that the act as currently written can be implemented in a very effective and useful manner to the American public, and we are attempting to do it in that fashion. I think, on the one hand, there are undoubtedly improvements in the act of one sort

or another than can and should be considered at some point in the future on an appropriate schedule. By the same token, we are keenly aware that our implementation of the act has not been in all respects as ideal as you, we, and others would have liked. But we feel we have made a good deal of progress and are moving forward to do the best we can under current authorities.

Mr. ROONEY. Thank you very much, Mr. Strelow.

As you heard during your presentation, there was some noise in the background. This is a vote on the adoption of the Conference Report on the Resolution To Lower Interest Rates, which I am sure we are all interested in.

So, if you will excuse me, I will be back in a moment.

[Brief recess.]

Mr. ROONEY. Mr. Strelow, I want to commend you for your excellent statement this afternoon. I must apologize for my colleagues not being here along with the fact that we are consistently interrupted by the rollcall votes.

This is one of the reasons why we tried to have the meeting in the morning and tomorrow morning, but unfortunately, the full committee is meeting on more urgent matters, not that this matter is not urgent. But as far as I am concerned, I want to assure you this is one of the most complicated problems facing my colleagues, not only in this committee, but in the Congress itself.

We sometimes wonder where noise begins and where does it end.

We had a very fine briefing with your associates a couple of weeks ago. Many of the members of the committee suggested that we have early hearings, and I am glad that you and your colleagues are here this afternoon.

I am very much concerned about your relationship with the FAA.

How would you describe your relationship with the FAA in regard to their consulting you before publishing regulations concerning the measurement of aircraft noise and sonic booms?

Mr. STRELOW. With respect to measurement issues, specifically, Mr. Chairman, I believe, we do still have some unresolved issues with the FAA and the Department of Transportation.

Mr. ROONEY. What are the unresolved issues?

Mr. STRELOW. I will let Dr. Meyer get into those in a little more detail. But I think one of the basic problems, undoubtedly, is the fact that long before EPA had a noise program, the FAA for many years had been working with and concerned with aircraft noise, and DOT, as a whole, was concerned with other forms of noise to some extent as well. So, we stepped into a situation where they had some pretty established procedures and ideas as to noise measurement. I am sure this adds some difficulty to making rapid turn arounds in a way that we feel at EPA that noise can most appropriately be measured and described.

Perhaps Dr. Meyer can comment on the technical differences that may exist.

Dr. MEYER. Mr. Chairman, as far as the field of measurement, or noise description is concerned, the aviation community over the last 10 or 15 years has used two distinct methods of measurement. One of them is the so-called composite noise rating, or CNR, abbreviated. The other is a noise exposure forecast.

Both of these take into account the acoustical characteristics of the airplane and the engine, the number of flights, pure tone characteristics, if any, and the spectrum of the noise and require computational methods which can't use a simple sound level meter to measure. You can use a sound level meter and other equipment to provide some inputs into it: EPA, in meeting the mandates of the Congress to take a look at some of these problems as evidenced in the legislative history and as required by the "Levels Document" that was described, has come up with a different approach.

It really is not unique because it was used a number of years ago by some of the authorities in the field. It is a method of merely taking the sound level measurements and, as Mr. Strelow indicated, putting a nighttime weighting, where the sound as actually measured at night is given a penalty weighting because of the fact that people are more annoyed at night.

There is a difference of opinion as to the appropriateness of the use of the so-called L_{dn}-L_{eq} systems for community environmental noise measurements relating to aviation. I do not think these are unresolvable because there are places and circumstances under which some of the supporting measurements for the approach used in the NEF system are still appropriate for noise certification. It is a complicated, technical problem, and I think beyond our time or limit here, but we would be pleased to give you more details on the difference between the two for the record.

Mr. ROONEY. I wish you would supply that for the record.

Without objection, that information will be supplied.

[The following information was received for the record:]

U.S. ENVIRONMENTAL PROTECTION AGENCY,
OFFICE OF THE ADMINISTRATOR,
Washington, D.C., August 16, 1974.

[Identical letters sent to
the attached list of names.]

DEAR MR. CHAIRMAN: This letter is being written pursuant to two sections of the Noise Control Act of 1972. First, under Section 5(a)(2) the Administrator of the Environmental Protection Agency was required to "publish information on the levels of environmental noise the attainment and maintenance of which in defined areas under various conditions are requisite to protect the public health and welfare with an adequate margin of safety." I am enclosing a copy of this publication ("The Levels Document," EPA Document Number 550/9-94-004) not only for your convenience and information but also because of the other relevant section of the Act, Section 4(c), which directs the Administrator of the Environmental Protection Agency "to coordinate the programs of all Federal agencies relating to noise research and control . . . [and to be consulted by each] Federal agency . . . in prescribing standards or regulations respecting noise."

By way of explanation, I should point out, as is emphasized in the "Levels Document," that the levels of environmental noise identified therein are based solely on considerations protective of public health and welfare. The levels do not take into account either cost or technology and, thus, do not in any way constitute a standard, regulation or specification.

The levels of environmental noise that are to be embodied in any Federal regulatory action will, of course, vary according to the statutory mandate under which the regulation is proposed and promulgated as well as various requirements of cost and technology. However, as a matter of coordinating and reviewing all Federal noise research and control programs as required by Section 4(c), it is most important that such Federal programs use the same environmental noise descriptor or methodology as that adopted by the Environmental Protection Agency in the "Levels Document." It is recognized, as stated therein, that other systems of noise description may be appropriate for specific source emission standards (such as EPNdB, sones, etc.).

Put most simply, this methodology for expressing environmental noise is described as L_{eq}/L_{dn}. The L_{eq} stands for "equivalent A-weighted sound level over a given time interval. Thus, $L_{eq}(s)$ represents such a level over an eight-hour period. L_{dn} represents day-night sound level—the 24-hour A-weighted equivalent sound level with a 10 decibel penalty applied to nighttime levels."

The development of this L_{eq}/L_{dn} methodology is set forth in Appendix A (pp A-1 to A-15) of the enclosed "Levels Document." In addition, the balance of the text of Appendix A (pp A-15 to A-24) illustrates the capability of and the translation of this methodology from three measures utilized for airport noise, CNR, NEF, and CNEL, as well as the HUD Guideline Interim Standards and the Federal Highway Administration standards.

The Environmental Protection Agency has concluded that the Noise Control Act of 1972 calls for the use of a common and uniform methodology for describing environmental noise. In addition, the Administrator is required under Section 309 of the Clean Air Act Amendments of 1970 to review other Federal agency actions affecting his duties and responsibilities. Under Section 309 EPA reviews, among other things, the noise assessments presented in environmental impact statements prepared by other Federal agencies in accordance with the requirements of the National Environmental Policy Act. I believe that the Administrator's functions under Section 4(c) and 309 would be furthered by Federal Government-wide adoption of the standard methodology selected, L_{eq}/L_{dn}. Therefore, I am recommending that all agencies in the Federal Government take immediate action to use the proposed L_{eq}/L_{dn} environmental noise descriptor.

This letter does not in any way constitute formal Agency rulemaking. However, the Environmental Protection Agency is in the process of developing a guideline on the subject, which after appropriate interagency review and promulgation will require that all descriptors of environmental noise use the L_{eq}/L_{dn} methodology.

However, since additional time will be required to formulate and finalize an EPA Guideline, this letter is written so that Federal agencies will have additional time in which to become acquainted with and to convert to the L_{eq}/L_{dn} methodology set forth in the "Levels Document."

Sincerely yours,

(S) JOHN QUARLES,
Deputy.
(For Russell E. Train).

Hon. Robert D. Timm, Chairman, Civil Aeronautics Board, Universal Building, Washington, D.C. 20428.
Hon. Donald E. Johnson, Administrator, Veterans Administration, Washington, D.C. 20420.
Hon. Robert E. Hampton, Chairman, Civil Service Commission, Washington, D.C. 20415.
Hon. H. Guyford Stever, Director, National Science Foundation, Washington, D.C. 20550.
Hon. Rogers C. B. Morton, Secretary, Department of the Interior, Washington, D.C. 20420.
Hon. Henry A. Kissinger, Secretary, Department of State, Washington, D.C. 20520
Hon. Peter J. Brennan, Secretary, Department of Labor, Washington, D.C. 20210.
Hon. James T. Lynn, Secretary, Department of Housing and Urban Development, Washington, D.C. 20410.
Hon. Richard E. Wiley, Chairman, Federal Communications Commission, Washington, D.C. 20554.
Hon. Frederick B. Dent, Secretary, Department of Commerce, Washington, D.C. 20230.
Hon. John L. McLucas, Secretary, Department of the Air Force, The Pentagon, Washington, D.C. 20330.
Hon. Alexander P. Butterfield, Administrator, Federal Aviation Administration, Washington, D.C. 20591.
Hon. Aubrey J. Wagner, Chairman, Tennessee Valley Authority, Knoxville, Tennessee 37902.
Hon. Howard H. Callaway, Secretary, Department of the Army, The Pentagon, Washington, D.C. 20310.
Hon. Roy L. Ash, Director, Office of Management and Budget, Washington, D.C. 20503.
Hon. James C. Fletcher, Administrator, National Aeronautics and Space Administration, Washington, D.C. 20546.

Hon. Arthur F. Sampson, Administrator, General Services Administration, Washington, D.C. 20405.
Hon. James R. Schlesinger, Secretary, Department of Defense, The Pentagon, Washington, D.C. 20301.
Hon. Caspar W. Weinberger, Secretary, Department of Health, Education, and Welfare, Washington, D.C. 20201.
Hon. Earl L. Butz, Secretary, Department of Agriculture, Washington, D.C. 20250.
Hon. Dixy L. Ray, Chairman, Atomic Energy Commission, Washington, D.C. 20545.
Hon. J. William Middendorf II, Secretary of the Navy, Washington, D.C. 20350.
Hon. William B. Saxbe, The Attorney General, Washington, D.C. 20530.
Hon. William E. Simon, Secretary of the Treasury, Washington, D.C. 20220.
Hon. Russell E. Peterson, Chairman, Council on Environmental Quality, Washington, D.C. 20006.
Hon. Claude S. Brinegar, Secretary of Transportation, Washington, D.C. 20590.
Hon. E. T. Klassen, The Postmaster General, U.S. Postal Service, Washington, D.C. 20260.

DEPARTMENT OF TRANSPORTATION,
Washington, D.C., October 1, 1974.

Hon. RUSSELL E. TRAIN,
Administrator, Environmental Protection Agency,
Washington, D.C.

DEAR MR. TRAIN: I am responding to your letters of August 16, 1974, to Mr. Butterfield and myself, which noted that the Environmental Protection Agency has concluded that federal agencies should adopt a common and uniform procedure for describing environmental noise, and recommended our immediate use of "equivalent A-weighted sound level" (Leq) and "average day-night sound level" (Ldn) as the two standard environmental noise descriptors.

We support fully the concept of standardized units of noise measurement, and in the noise abatement field have unwittingly spent too much time in searching standardized environmental noise descriptors. It may well be that those working for the "best" methods of noise representation in an unsuccessful effort to fit more perfectly an imperfect understanding of human response to noise. As a result, we may have occasionally been sidetracked from our main objective which is to quiet the environment.

While endorsing the general thrust of your August 16 letters, we question your conclusion that the Noise Control Act of 1972 calls for the exclusive use of a common system of environmental noise description such as Leq and Ldn. In dealing with the complex problems of noise abatement, and especially transportation noise abatement, the two descriptors which EPA proposes may be inadequate. Indeed, the recently distributed draft EPA instruction manual, intended to provide a better understanding of the EPA "Levels Document",[1] recognizes the need for other environmental noise measures to characterize single noise events, to simplify enforcement of noise abatement regulations, and to certificate individual devices for noise limitation purposes. The use of several descriptors to meet the range of needs in noise abatement is not in itself undesirable, so long as the noise descriptors which are in use are compatible and relatable among themselves with acceptable accuracy. We are now evaluating the several procedures for assessing airport noise exposure which are in current use, in order to resolve which is best for Departmental use. One of the prime criteria for such a decision is the direct correlation of the selected procedure with other accepted procedures.

In summary, we support the effort to standardize to the fullest extent possible environmental noise methodology and, insofar as our responsibilities permit, we will cooperate in that effort. The Department will be pleased to work with EPA in developing suitable guidelines. The DOT Office of Noise Abatement will continue to act as the Departmental focal point for this and other noise-related matters.

Sincerely,

CLAUDE S. BRINEGAR,
Secretary.

---

[1] Editor's notice: "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety," EPA, March 1974. May be found in committee's files.

Mr. ROONEY. I haven't seen much change in the aircraft coming in or taking off at National Airport or Dulles Airport ever since I have been in Washington, which goes back 12 years. What was the basis for the EPA decision that the landing of the SST at selected airports would not harm public health and welfare?

You know, Congress refused to authorize any appropriations for the SST, and now, you are going to land the SST and have takeoffs of foreign SST's in this country. On what basis was the EPA's decision for this made?

Mr. STRELOW. I think the SST example well illustrates one of the fundamental issues with aircraft noise, that is, the difference between regulating on the basis of specifically identifiable adverse health or even welfare effects, and the simple fact that almost all of the public, including myself, tend to get annoyed and disturbed by aircraft noise.

In the case of the limited number of 16 aircraft that were already fully produced or on the assembly lines, when the United States had no noise standards for subsonic operation of the SST aircraft, it simply was our judgment—and believe me, a reluctant one, based on the best technical information we had—that we did not feel that we had a credible environmental case, an adequate quantitative argument, certainly, to say that those 16 aircraft could not operate in an environmentally acceptable manner, at least, at certain limited numbers of U.S. airports, where there might be an ability to land over water or take off over very unpopulated areas, where certain specific runways could be used or, perhaps, nighttime restrictions imposed.

This is the kind of thing we had in mind—a limited number of airports, where there are not large numbers of people immediately around the airport, could tolerate SST landings and takeoffs in a way that simply would be hard for us to justify or point to any tangible environmental impact.

To put the matter in further perspective, the SST's now flying or coming into production are roughly equivalent to, and in at least one parameter better than the noises from the current U.S. aircraft. When the retrofit proposal, which we have made and which FAA itself has made, becomes effective, which we certainly hope it will before too long, then the SST's will tend to stand out as more distinctly identifiable than the other aircraft. Even then, perhaps, its most salient characteristic is a lower frequency of noise, more of a rumbling type of noise than is common for typical aircraft and in a frequency which, as I understand it, from a technical standpoint is probably not as annoying as the high-level whine that you get with current aircraft.

So, it will be perceptible. It will be distinguishable, particularly after retrofit of the existing fleet. From that standpoint, it is true that people will be able pretty much to identify an SST.

I suppose, in net effect, it is a very difficult decision for us to have made without having the kind of objective criteria that we felt would be appropriate to say absolutely no landing or takeoffs, even for planes that had been constructed at a time when, at least, there were some assurances—and I certainly can't speak to how strong or qualified those were—that they would be allowed to operate and, certainly, in the absence of any standards in effect at the time they were being built and the commitments were being made.

52-021 O - 75 - 2

Mr. ROONEY. Did the EPA take into consideration any regulations with respect to the SST, knowing that foreign governments were developing this, coming into this country?

Are you implying, also, that SST's are less harmful than the average 747 or 707 landing at airports?

I have heard all the emotional issues debated during the debate on the SST. One was the effect it would have on the environment, the rattling of houses and breaking of windows and so forth.

Mr. STRELOW. There are several elements to your question.

One, I think, in terms of any window breakage or anything like that, in effect, would be associated with operations at supersonic speed over U.S. land territory, which, as I understand, has been prescribed by the FAA for some time.

So, it is clear that none of these aircraft would be operating at other than subsonic speeds at best.

Secondly, I think, well before the time, again, that EPA had a noise-control program, or the Noise Control Act had passed, the SST's development program by the British and French was well underway. So at the time we came on the scene, there had already been a fair amount of commitment and, as I said, some degree of Government assurances, at least executive branch assurances or statements, that would not absolutely preclude U.S. operations.

Certainly, it would have been much better had the issue of subsonic noise levels been addressed far earlier than it has been. Then the public could have made that decision at a point when the rules would have been clear to anyone who was considering investment in this area. However, the manufacturers in this case have assumed that they would have at least some ability to operate in the United States and have certainly made claims that it was really vital to the success of their program.

In terms of the other health and welfare effects, again, I think it is very important to realize that we are talking about an extremely limited number of planes, a limited number of airports, where there might even be the potential for subsonic SST operations in a way which, in our judgment, would be very hard to point to any perceptible environmental impact.

I am not saying people won't notice it is an EET because it has a different noise characteristic, which, in some ways, is not as unpleasant as some of the current generation subsonic planes. I think the most important thing is the fact that we have proposed and certainly hope the FAA will adopt a rule that will make it clear that no further production will even be considered for U.S. operations, unless they meet the regular subsonic standards.

Mr. ROONEY. How many airports has the FAA permitted these SST's to operate in?

Mr. STRELOW. There has been a limited number of experimental flights. There was one into the Dulles Airport a year or so ago.

I believe they are now proposing to consider some flights into Kennedy and Dulles. Our proposal did not attempt to lay out definitively which airports might or might not qualify under the type of criteria we are talking about. The basic one would be the degree of population impact in or near the airport.

Mr. ROONEY. I have a question concerning enforcement of this act. Subsection 6(d)(2) of the Noise Control Act of 1972 indicates that the cost obligation of the warranty provision cannot be transfered from manufacturer to dealer. How will you enforce this section?

Dr. SHUTLER. EPA will engage in a monitoring program of such claims keeping plugged in with owners of trucks or air compressors—whatever the new product might happen to be—which has caused them to make claims.

We will monitor the manufacturer's activity in honoring those claims. It will be a watchdog situation.

Mr. ROONEY. What will the penalty be?

Dr. SHUTLER. If the manufacturer fails to honor a legitimate warranty claim, I believe, we will be able to proceed under authority of section XI(d), which allows the Administrator to make such orders as are just and proper and to enforce those orders.

Mr. ROONEY. That is how you will enforce the noise-emission standards on new products?

Dr. SHUTLER. We started talking about warranty and ended up talking about standards.

With respect to standards, we will have a more extensive strategy involving testing of products, both by manufacturers and EPA.

Mr. STRELOW. Also, the criminal penalties in the law would be applicable in the case of products sold and not in conformance with applicable standards. This is one area that undoubtedly we would liek to discuss with your committee at such time as you may want to take a look at the act.

Some of the penalty provisions are not as encompassing as we feel they should be. There are certain types of activities that are prescribed under the act for which the existing enforcement authority may not be fully adequate.

Mr. ROONEY. I have a few more questions, but I will defer to Mr. Santini, at this time.

Mr. SANTINI. Thank you, Mr. Chairman.

What, in summary, do you feel have been the concrete accomplishments of EPA since authority was conferred in 1972 by the Noise Control Act?

Mr. STRELOW. I think there have been a number. I will stand corrected by my colleagues if I forget any major ones.

I think, first of all, it was fundamentally important that we establish, as the Congress properly required, the health and welfare basis for all we are doing. The "Criteria Document" and the "Levels Document," I think, have proven to be every bit as important as the Congress and we, ourselves, thought they would be.

In attempting to regulate various major sources of noise, it is vital, as it is in other environmental areas, that we have a credible scientific basis. And although we oftentimes can't quantify the benefits, at least, in a general sense, we are able to say, yes, it is going to cost maybe a number of millions of dollars to regulate a particular type of product. But it is worth it because we are going to be protecting the public; we are going to be improving their environment from a noise standpoint. So, that would certainly be the first and most important area.

Mr. SANTINI. Prior to 1972, had there been any specific studies, or any specific efforts to provide data on which you could base regulations and define the scope of enforcement?

Mr. STRELOW. There had been some studies in the noise area, but I must say that my impression has been that noise in the past was, and still is to some degree, one of the most understudied, misunderstood, and least understood environmental problems.

At the time the act was passed, I was with the Department of Health, Education, and Welfare. We had essentially one person who was really known in the Department at that time as engaging in and exercising leadership in noise-health effects' work.

This simply was not a very popular or glamorous or widely understood area.

I think at the time the act was passed, unlike some other programs that the Agency now administers, we had a lot of catching up to do. We had some information that we obviously could rely on, and we did. But the area of noise regulation, going beyond just the health effects, in terms of technology, for example, was not technically defined in a number of areas.

There were certain types of noise-control equipment that were understood to some extent. But without the impetus of any Federal legislation, I think, local efforts and State efforts have been quite fragmentary and limited.

Mr. SANTINI. Essentially, then, the Department's accomplishments have been represented by both the "Criteria Document" and the "Levels Document?"

Mr. STRELOW. These were an important and essential steppingstone on which then to proceed with regulations.

As I have mentioned, we have proposed to the FAA, as required under the act, several aircraft noise standards—the minimum altitude approach standards, the propeller standards, the retrofit standards—which are vitally important because we still have quite a number of noisy aircraft for which there is technology available at reasonable cost to achieve a substantial reduction in noise levels.

We have made a proposal which is obviously difficult on the SST's. However, I think it is important that we have this issue out now—we have a specific proposal for people to talk about and shoot at. We have no particular pride of authorship. Quite possibly, another way of dealing with it would be better.

We have interstate motor carrier noise regulations in effect. I believe my statement mentioned the fact but, perhaps, did not highlight it clearly that transportation noise and construction noise, are really the major sources of impact outside of the workplace which is the responsibility of another department. That is why we have focused our efforts in these particular areas.

We have final interstate motor carrier regulations. We have proposed both railroad interstate operating standards and standards for new air compressors and new trucks and are well on our way to proposing other standards as well.

Mr. SANTINI. If I read—and I did in a hurried fashion—your statement correctly, we can expect regulations by 1982 and can look anxiously forward to reasonable compliance by 1992?

Mr. STRELOW. The date does stand out in a way which is not quite the effect intended. The real point is that we are obviously going to be regulating a number of products over a period of time. We have already started. In some of these instances, for example, in our new truck regulations, we have proposed standards that will go into effect in the 1977 model year for new trucks. Those will be progressively tightened in subsequent years. We have laid out a schedule for tightening the numbers in future model years. I believe it is 1982 or 1983, we reach a very ambitious, but attainable, level. Assuming we have a 10-year turnover period in the truck population, that would tend to say that 10 years from the point of the tough standard, we would have practically a whole vehicle population meeting that standard.

I did intend to emphasize in my statement that in many of the areas we are setting standards to go into effect immediately to achieve the fullest degree of noise protection attainable for the foreseeable future. In other cases, where a particular standard takes a longer period to develop what we are really anticipating is that by 1982 we will have standards in effect for all of the significant major noise sources, but with the emphasis, hopefully, on having a good many of them long before then.

We are well underway with that right now. In that sense, this 1992 date might be considered somewhat conservative as to the time when we would realize these benefits.

On the other hand, there are plenty of cases where we can achieve a tougher standard in 4 or 5 years' time, with research and development work already underway. Where that is possible, as in the case of new trucks, we try to set a phased schedule where you can effect a tightening up.

Mr. ROONEY. What will these standards cost the trucking industry, these standards that you are going to promulgate by 1992?

Mr. STRELOW. By the time they have to be implemented on a mass production basis and given the leadtime, the costs can be reduced. If you had to make a prediction now what it would cost in current dollars to implement a technology that is still very formative, we estimate that it could be approaching the range of a billion dollars a year by the level of standards we are talking about by 1982.

Mr. ROONEY. You are talking about yearly cost by 1992?

Mr. STRELOW. No, the standards that would go into effect between now and 1982 would not be anywhere near that expensive on an annualized basis.

Mr. ROONEY. I am talking about 1992. I read some statistics that it was going to cost the trucking industry $16 million.

Mr. STRELOW. With the estimated level of production in that year——

Mr. ROONEY. Is that true?

Mr. STRELOW. I cannot quarrel with the figures as to the level of production.

Mr. ROONEY. Thank you, Mr. Santini.

Mr. SANTINI. When would you envision, on your present program, you would be engaged in any active enforcement? As I understand, you are still in the formative stage, and there has been no attempted enforcement.

When would you commence enforcement activity, for example, in the aircraft noise situation that you discussed with the chairman?

Mr. STRELOW. In the aircraft noise area, of course, under the existing Noise Control Act, we simply have authority to propose regulations to the FAA. The ultimate decision, as to whether to promulgate any standard at all and if so what the standard should be, is still reserved to the FAA, as is the enforcement.

In that area, under current law, EPA has no enforcement, indeed no final regulatory authority of its own, simply authority to propose.

In other areas, enforcement is much more imminent. For example, in the interstate motor carrier regulations are final. The act provides in that case, because of the existing Department of Transportation network for dealing with motor carriers from a safety standpoint, that the Bureau of Motor Carrier Safety implement and enforce our regulations for interstate motor carriers.

As I mentioned, they have proposed enforcement regulations for that program, and presumably, they will be finalizing those fairly soon.

Mr. SANTINI. How about business machinery?

Mr. STRELOW. For example, we have a proposal relating to construction equipment. When that is finalized within a few months, then in that case and for all the new product regulations, our own enforcement program, under Dr. Shutler will be responsible for enforcing that through a variety of techniques.

I might add that we would have liked to have had many of our regulations out sooner, but with the railroad regulations and with these two new product regulations, the air compressors and the new trucks, we ran into very serious and severe complaints and challenges from the affected industries. And we simply cannot be unmindful of those, particularly under current economic conditions.

I think we have a special obligation to be very sure that we are not imposing either unnecessary costs and that we have a true fix in our own minds as to what those costs will be.

For those reasons and because we are essentially launching into a new area, where there are some fairly unique enforcement problems with industries that we have not really dealt with before, a number of these regulations are being held up. We held some special hearings, for example, on the air compressor regulations and the new truck regulations. We would have been prepared to go final earlier, but because of the tremendous volume of mail and comments we had, we felt it was appropriate that we once again delay our initial schedule in trying to try to resolve the problems.

Mr. SANTINI. Is this problem being confused at all by the overlapping jurisdictions of Government agencies involved in the necessary regulation or enforcement?

It seems to me we are getting a confusion of bureaus and agencies involved in specific responsibilities in this arena, which I could at least apprehend and appreciate compounding a sensible program of any kind being implemented.

Mr. STRELOW. For the new product regulations, there is no overlapping of authority. It is quite clear that EPA sets the standards and enforces them.

In the case of interstate motor carriers, it is appropriate that an existing Federal agency, with people out in the field dealing with truckers on a day-to-day basis, carry out the enforcement.

Mr. SANTINI. Since they are responsible for enforcement, should they not be responsible for regulation?

Mr. STRELOW. I would have to say that, ordinarily, my own preference would be for a joining of the regulatory and enforcement authorities. Here, however, it just seems a matter of good economy in the Government. If you have people who are experienced in dealing with this industry, who have to deal with them on a day-to-day basis for safety purposes, anyway, it may very well be appropriate to make a limited exception and have them dealing with the noise enforcement as well.

Mr. SANTINI. I thought I understood you to say there was very little experience in tihs area and this was some of the problems of delay in establishing implementation?

Mr. STRELOW. My earlier comment, in the noise area, in general, was not intended to be applicable here. That really related more to knowledge of effects and actual experience in carrying out regulations.

Here, certainly, we are dealing with a new element. The noise regulations are different from the safety regulations. For example, one of the basic thrusts of the interstate motor carrier regulations is directed at mufflers—making sure that an adequate, effective muffler, first of all. is simply there. To some extent, also, it deals with the tires that are used. These are areas where it should not be too difficult for an agency that may have been dealing with somewhat different components of the truck and for somewhat different reasons to do a perfectly adequate job in this area.

Mr. SANTINI. How about OSHA taking over product noise enforcement and regulatory responsibility? That would not strike me as entirely illogical.

Mr. STRELOW. The Occupational Safety and Health Administration——

Mr. SANTINI. Assuming responsibility for regulation and enforcement?

Mr. STRELOW. For new products? I certainly could not comment on their capabilities or lack thereof. I understand they will be before the committee, and perhaps they can address that.

I do feel that we have both the capability and the appropriate mission through our agency as a whole to do that kind of job effectively. I certainly would not see any advantages in a transfer of functions to OSHA.

Mr. SANTINI. Don't they have people in the field who are now inspecting and investigating these worksite conditions, and aren't they better situated in the terms of personnel in the field?

Mr. STRELOW. In the new product area, for example, the OSHA people are dealing in the workplace situation, looking at assembly lines, parts of the production facilities that are noisiest. They are looking at work exposure, ways to make the machines in the plant quieter, or ways to keep the workers a certain distance from the noisy equipment. Whereas, on new products, the focus is entirely different, you are looking at the new product that is to be made, which OSHA does not look at, to my knowledge.

As to enforcement, we have a great deal of experience. Dr. Shutler and his people are busy monitoring the auto emissions in a certification type program, in auditing assembly line vehicle performance, in doing vehicle tests. In this area, I would think EPA probably has as much experience as anyone to offer in testing compliance of newly produced products in an efficient and cost-effective way.

Mr. SANTINI. Under section XV of the Noise Control Act of 1972, Congress authorized the administration of EPA to certify low noise emission products for use by the Federal Government. The language of this section appears to be mandatory because of the use of the word "shall."

Since this act's inception, the EPA has never requested, either from OMB or the Congress, for any funds to carry out that section. My questions are, one, why has not EPA requested any funds to carry out that section——

Mr. STRELOW. The answer to that, Mr. Santini, is that the section is geared to the new product regulations and until such regulations are in effect, at least until it is clear what the regulation is going to be in a particular case, we really have no basis for implementing the section.

We have to have products that are actually being regulated. At that point, and we are certainly on the brink of that in at least two areas and coming close in others, we will be in a position to implement that authority.

A further point is the fact that, in our discussions with OMB, it is my understanding that it has been agreed it would not be appropriate for EPA to request and receive funding under that section. Since the procurement and the additional cost would be incurred by paying a premium for low noise emission products which are purchased basically by the General Services Administration and the Department of Defense—and, I believe, the Post Office has some independent purchasing authority—that, probably, the funding would and should be requested through those agencies once the new product regulations are in effect.

Mr. SANTINI. Are we again prospectively getting ourselves into a confused problem of jurisdiction in a monetary sense? I can see this becoming a nightmare, a sort of working bureaucratic authority and funding in which the net result is total ineffectuality of any kind, regardless of what the desired objectives are.

Mr. STRELOW. Since there are centralized purchasing mechanisms for buying vehicles and other products which the Government uses, the section II authority that you refer to—the specific authority for paying a premium for low noise emission products—is one that I think would most appropriately be reflected in the budgets of the agencies that do the purchasing. The responsibility of EPA is to make sure that the products that are deserving of this priority treatment are identified and can be certified, we have had some experience with this in the low emission vehicle program under the Clean Air Act. But once a determination is made that a particular product has low emission or low noise emission characteristics, there is a further determination which has to be made which, again, EPA is not in the best position to do—at least, not alone. This is whether the product which

has these special characteristics from a noise and environmental standpoint is an appropriate substitute for the product being used.

We have had examples of electronic vehicles being suggested as substitute under the low emission program. Obviously, if they are battery powered, they don't have any exhaust emissions. In that instance, they could qualify. Then, you find out they cannot go up a grade faster thas 5 miles or something.

Then, GSA, or the Post Office says, "Look, this is not an appropriate substitute. It does not meet our basic needs and expectations for this product."

Unfortunately, we are doomed to a certain amount of hand-holding and intergovernmental cooperation. We obviously want to make this as effective as possible. There may be areas of the law where some further focusing of responsibility is appropriate.

I think, in this particular area, that it is probably inevitable to have these agencies involved.

Mr. SANTINI. Has the EPA published any regulations under which manufacturers of low noise emission products can apply for certification?

Mr. STRELOW. Yes, we have certification regulations.

For example, as soon as we have the new truck standards finalized—and indeed, we will be working on this prior to the actual finalization, so that we don't have a gap in time left there—we will be able to identify for specific products just what criteria would be used to define what is a low emission product.

I think that may very well differ from one product to another; for example, in the area of trucks, as I mentioned, we have standards that go into effect in the 1977 model year, but then, tougher standards that will come in in subsequent years, over a 5-year time frame. It may be most appropriate in that year to focus on the later year standards and say, for the 1977 model year a low-emission product is one that would meet the 1981 or 1983 standards. That has to be done to some extent on a product-by-product basis.

Mr. SANTINI. Then, I understand, you have published regulations?

Mr. STRELOW. Yes, the procedures for how you go about bringing your product to the EPA's attention and getting it through certification processes.

Mr. ROONEY. Can they apply?

Mr. STRELOW. I don't think they can until they have the final regulations for new products and compressors. What constitutes a low emission truck or low emission air compressor cannot be defined conclusively until a final determination has been made on those regulations. Some of the very industries involved are debating with us quite considerably as to what those standards ought to be.

Mr. SANTINI. Then, you are really not in the posture of accepting a certification application at this time?

Mr. STRELOW. No, we have laid out the procedures and said how it can be done once a product has been produced for which EPA has issued a final regulation.

What has not yet been laid out and cannot be until the product regulations, themselves, are finalized, is, if you are a truck manufacturer, what constitutes a low-noise-emission truck in comparison to the

EPA standards. Obviously, the standard has to be decided upon before you can tell someone what truck does even better.

Mr. SANTINI. If I understood you correctly, it will not be until 1977 that a manufacturer of trucks, for example, will be able to apply for certification?

Mr. STRELOW. No. Let us assume, as I hope to be the case, that these new truck regulations go into effect in a month or so. Let us say, the first year it takes effect is the 1977 model year. It may well be to say that anyone who, prior to the 1977 model year, has a vehicle which already meets the 1977 standards could sell it or could get priority treatment from the Government. Thus, in the 1976 model year, a truck meeting the 1977 standards might very well be defined as qualifying for this priority purchase treatment. So, the only restraint is getting that regulation into final effect.

Mr. SANTINI. On the budget sheets that you discussed briefly in conjunction with part 1, the budget sheet this subcommittee has requested and which you supplied to us, there are two breakdowns of categories. I would appreciate an explanation for the record.

One is your request to OMB. Who makes this request; is it the EPA Office or Office of Noise Control?

Mr. STRELOW. The Environmental Protection Agency makes an overall request for all of the Agency's programs on an annual basis to OMB. Of course, that is preceded, in turn, by individual components of the agency discussing with the Central Budget Office in EPA the appropriate level of requests for different individual programs.

Mr. SANTINI. Then who submits the request to Congress, OMB, or EPA?

Mr. STRELOW. As a formal matter, that is transmitted by the President, who, with a lot of advice and input from OMB, as well as the agency heads, makes a judgment as to what his total budget recommendation is going to be.

Mr. SANTINI. In wrap up, who determines what your budget will be, and have these determinations in the past interfered with your carrying out the intent of Congress?

Mr. STRELOW. The final budget determination is a three-part process, involving the President, the Administrator of EPA, in our case, and the Director of OMB.

For example, in this past year, those three individuals sat down and discussed issues where we had not been able to reach appropriate resolution with OMB recommendations. We had an opportunity to discuss some of those issues with the President and get his final judgment and decision.

Obviously, the difficult decisions ultimately that have to be made by the President as to how to balance and shape his total budget, which inevitably has some restrictive effect on what each individual agency and each individual program would love to do if it were king and could make the decisions itself.

There is no question that this program and every other one that we have in our agency certainly has been kept from doing some of the things that it might have done if it had been able to have a larger budget.

Mr. SANTINI. Did I interpret budget deficiency or lack of compliance with your request has been only a minor impediment to your implementing this program?

Mr. STRELOW. It is hard to characterize whether you would say it is major or minor. I think there are a number of factors that constrained the program and could not have been solved by throwing money at it.

In EPA, unlike other programs, the noise program really started from whole cloth. There was no noise program transferred to the agency from other departments when EPA was first formed in 1970. The noise program, directed by Dr. Meyer and a very small staff at that time, under the Clean Air Act authority, title IV, initiated some studies that were called for prior to the enactment of the Noise Control Act. Inevitably, there was constraint from the fact that, when you start with a very small nucleus of people and, particularly, when there are not a lot of noise-control experts available in the job market, there are some start-up difficulties simply from having to build a big staff to deal with a complex problem, where you started out with practically zero not too long ago.

We had to get over the hump of these criteria and level documents. There, too, we ran into a good deal of concern about the potential economic ramifications of the "Levels Document" even though it is not a standards document, but simply describes effects.

This is something that I don't think any amount of money would have cured. Indeed, some of the other problems we run into are inevitable growing pains for a new program. On the other hand, there are things we could have done better, both with and without additional money. So, it was a constraint, but I would not want to leave any impression that, yes, if we had had a lot more money in the past years, everything would have been fine, because we still would have had some of these other problems.

Mr. SANTINI. Thank you, Mr. Chairman.

Mr. ROONEY. Before OSHA published its "Notice of Proposed Rule Making," concerning the revision of the occupational noise exposure regulations, found at 29 (CFR) of R-19-10-25, did OSHA consult with EPA?

Mr. STRELOW. We had had, for some period of time, some informal consultations with OSHA, concerning the appropriate level of the workplace noise standard. I don't know how formalized that consultation procedure became, but certainly, they were well aware of our views as to appropriate levels and as to the types of analyses that really ought to be done to reach appropriate economic impact judgment, which certainly they have to make before making their decision.

Yes, there was consultation, a good deal of consultation.

Mr. ROONEY. Informal consultation, as you said previously?

Mr. STRELOW. Yes, I would basically characterize it that way.

We knew at the time what the proposal was going to be.

Mr. ROONEY. I wonder if you would explain to the subcommittee EPA's version of its present dispute with OSHA, over OSHA's proposed occupational noise exposure regulations?

Mr. STRELOW. The OSHA authority has to accommodate, in some fashion, and I don't begrudge them a very difficult task, both the information on health effects from different levels of noise exposure

and on the other hand the economic feasibility, because we are talking about very substantial amounts of money potentially involved in controlling workplace noise.

My impression of the basic difference between the two agencies is something like this: On the one hand, EPA starts with its "levels document," which says, if you could, you would like to get noise exposure levels down to something like 70 dB on a weighted basis, in order to protect against health effects. You could even go lower than that and protect against welfare or annoyance effects, but at least to protect health, that is a desirable target.

We realize that in many instances, particularly in a number of heavy industry workplace environments, there is no way to reach such a level soon, but it is desirable to set it as a goal.

Our second step would be to determine how close can you get to that feasibility in the near-term. The previously existing noise standards under the Walsh-Healey Public Contracts Act have been under 90 dB for some time. The OSHA proposals have been to stay at that level, with some peripheral strengthening provisions, no doubt, but, essentially, to stay at that level.

Our view is that, there are a substantial number of industries that could probably get to a somewhat lower level, and we have simply picked on 85 dB as being a tangible increment of progress.

The way noise exposures work, it may not sound like going from 90 to 85 dB is a big jump, but it is a logarithmic type of difference, so it is a big difference.

Mr. ROONEY. Are you saying OSHA's regulations do not protect the public interest?

Mr. STRELOW. We don't think they go as far as would be reasonable and possible in protecting the workers' health. Recognizing full well that it is a matter of judgment and one of the areas, obviously, that is critical is the balancing of the economic impacts, we fully agree that OSHA should do that.

You can't just look at the one side of the equation. One criticism that we have had is that we believe the study relied upon by OSHA in determining the economic impact is subject to some severe limitations. In some cases, studies of the cost impacts in one industry, we think, were perhaps extrapolated to other industries in a way that is not warranted and would tend to overstate the total industrial economic cost. So, we think one of the things that clearly should be done is to get a better, more sophisticated estimate, if you will, of the economic impacts.

Beyond that, we think it would certainly be appropriate to talk about a phasing in of the 85 standard rather than simply staying at 90 and saying some time in the future, we may consider it.

I think, underlying this, notwithstanding EPA's promulgation of the "Levels Document" and the identification of the health levels that we felt were appropriate as ultimate goals, there is some reservation, at least, within some elements of the Department as to the validity of those numbers.

We feel quite confident of them. They went through an interagency review process at the time we published them initially. I think that may also have some impact on why we tend to be somewhat at odds in this area.

Mr. ROONEY. Now that OSHA has published its review of its proposed rules in the Federal Register, what happens to the dispute, and how is it being resolved?

Mr. STRELOW. We have acted under our authority in section 4 of the Noise Control Act to formally, in the Federal Register, request a public, written explanation from OSHA, concerning why they did not adopt, or propose standards more in line with some of the alternatives that we have suggested. We have suggested a number, not just one specific way to go.

OSHA has an obligation to respond to that. I believe their response has very recently been formally published. They are holding a hearing on their regulations, I believe, in May. We will have the opportunity, I am sure, to appear at those hearings and address our concerns in more detail.

I know others will as well. Some of the labor unions have expressed a strong interest in this, understandably. Then, the process will be resolved subsequent to these hearings.

Fortunately, I think, the response that we have back from OSHA, the written response, has taken a position that they really can't address our concerns fully until after they have held hearings. That is appropriate because an agency cannot prejudge a case and make up its mind before hearings. On the other hand, we would have hoped to have a little more forthcoming explanation as to why, prior to the hearings, they are firmly fixed on the course they are on.

Mr. ROONEY. Do you have any disputes with other agencies in Government other than OSHA.

Mr. STRELOW. Once in awhile. Obviously, they are matters of judgment that are entered into on occasion. They are not serious difficulties. I don't want to overplay the difficulties with OSHA, either.

I want to be candid, but I don't want to suggest that we have a raging catfight or anything like that. These are matters of honest differences of opinion. In most cases, these are resolvable.

Other agencies have different missions and different perceptions of what they ought to be doing in particular areas, and this accounts for some of it.

Mr. ROONEY. Do you have any legislative recommendation for resolving such disputes, other than the existing mechanisms which are available?

Mr. STRELOW. I don't know that I could suggest any specific approach at this point.

Mr. ROONEY. How about court review of the findings?

Mr. STRELOW. I assume that there is judicial review available, at least, under the Administrative Procedures Act, if nothing else, to look at the reasonableness of a particular agency's action. I don't know what particular weight could be given to EPA's judgments as publicly expressed in the normal judicial review of, say, an OSHA standard, or someone else's that might be an area for consideration.

I think it would be difficult to suggest a quick and easy solution, because, obviously, there are other agencies that have substantial experience and expertise in a number of these areas where it makes complete sense to have the regulations vested where they are. So, we simply have to find means, both administrative and, to some extent, legislative to harmonize our different views.

Mr. ROONEY. Well, at the sound of the bells, I think that will conclude your testimony, unless you have further questions, Mr. Santini.

Mr. SANTINI. No further questions.

Mr. ROONEY. This being your first time on the Hill, Mr. Strelow, I want to compliment you on your excellent statement and your fine response to our questions.

Mr. STRELOW. Thank you, Mr. Chairman.

Mr. ROONEY. We will have to recess for a rollcall.

We will hear the other witnesses after we return from the rollcall.

[Brief recess.]

Mr. ROONEY. The second panel of witnesses this afternoon is the Honorable Howard Schulte, Deputy Assistant Secretary of Labor, and Dr. Daniel Boyd, Director of Office of Standards. Dr. Floyd Van Atta and Benjamin Mintz, counsel.

Are you all appearing as a panel?

Mr. SCHULTE. Yes, sir.

Mr. ROONEY. You may proceed.

STATEMENTS OF HOWARD J. SCHULTE, DEPUTY ASSISTANT SECRETARY OF LABOR, OCCUPATIONAL SAFETY AND HEALTH, DEPARTMENT OF LABOR; DR. DANIEL P. BOYD, DIRECTOR, OFFICE OF STANDARDS DEVELOPMENT; DR. FLOYD VAN ATTA, INDUSTRIAL HYGIENIST; AND BENJAMIN W. MINTZ, ASSOCIATE SOLICITOR

Mr. SCHULTE. Mr. Chairman, my name is Howard Schulte, Deputy Assistant Secretary of Labor for Occupational Safety and Health.

I have with me today Dr. Daniel Boyd, who heads up our Standards Division, on my left, Dr. Van Atta, who is our noise expert, and counsel Mr. Mintz on my far left.

We did not prepare a formal statement for the committee. In our recent letter to you, we enclosed a copy of our reply to EPA relative to our proposed noise standards and in that letter we indicated that we would be happy to come here today and answer questions that you might have.

Mr. ROONEY. I presume you heard the testimony previously given?

Mr. SCHULTE. Yes, sir; we did.

Mr. ROONEY. Do you have any comments with respect to what was said or what wasn't said by Mr. Strelow?

Explain your version of the dispute between OSHA and EPA over the occupational noise standards.

I think you can start off in that area.

Mr. SCHULTE. Yes, sir.

We have an obligation, of course, in the workplace, while EPA's obligation is in the environment in general. We had, as was stated here by EPA, a noise standard under the Walsh-Healey Public Contracts Act. The Department of Labor administered that noise standard.

When the Occupational Safety and Health Act was enacted, we adopted that standard. That standard provided for a 90-dBa permissible limit as an 8-hour time-weighted average. That is the exposure that an employee may be exposed to during an 8-hour day.

We have proposed amendments to this standard, as was indicated by EPA, to strengthen that standard. We are providing for audiometric testing and some other things to strengthen that standard.

Mr. ROONEY. Can you give us an example of that?

For example, take work in a steel company, in a foundry, or in a scarfing mill. Would they need protective devices over an 8-hour day?

Mr. SCHULTE. Yes, sir. Our standard requires that they apply engineering principles and/or apply administrative controls to reduce the noise level.

By that we mean that we require certain techniques, such as enclosures in some instances, to reduce the noise exposure. If that is feasible, if they can apply those engineering controls, then that is a requirement of the present standard and the one that we have proposed.

We also require administrative controls. In other words, if the noise level is higher than permitted for an 8-hour exposure, then an employee could work in this environment without protective devices for, say, 4 hours and be placed on another job outside of this noisy environment for the other 4 hours.

Mr. ROONEY. How would they do that with the shop agreements?

Mr. SCHULTE. In some areas it is difficult; they do have some problems. In other areas it does work and they can do it. Maybe not that extreme for 4 hours, but at less, 6 hours, something less than a full 8-hour exposure.

Then, if neither engineering or administrative controls will work, then employees must use protective earplugs, earmuffs, personal protective equipment.

Mr. ROONEY. EPA implied that your studies are not as accurate as they should be. What was the basis of your study and why do you feel your basic assumptions are correct?

Mr. SCHULTE. I would like to have our noise expert, Dr. Floyd Van Atta, address that question, sir.

Dr. VAN ATTA. Let me start at the beginning.

We have a basic obligation under the Williams-Steiger Occupational Safety and Health Act to prevent working people from having any material impairment of health or functional capacity.

Now, we do not have the obligation which EPA has assumed in the "Levels Document" of protecting everyone from any loss of hearing.

The level which they have chosen is 5 decibels loss at 4 kilohertz, which is the most sensitive hearing frequency and which is an unmeasurably small loss.

Now, if one accepts that definition of hearing loss, then I have no argument with their "Levels Document." But I could not agree, and I don't think that the Department could agree, that that unmeasurable loss is in fact a material hearing impairment.

The basic reason that we have a disagreement with EPA is that we have chosen to accept as the definition of hearing impairment the one accepted by the medical profession universally both in this country and in Europe. Now, if we accept EPA's assumptions of 5 decibels at 4 kilohertz over 40 years, we will come out with the same answers as they do.

We have chosen to use the definition which the medical profession uses of what is, in fact, hearing impairment and we come out with a different answer.

Now, the EPA has said that our studies of economic impact, which were done by Bolt, Beranek & Newman, are unrealistically low. It is quite correct that the study was a sampling study, as I think most

economic studies are, and that they used some extrapolation. It is probably true that, given another year or 2 years to do the study, they could have made the extrapolations better, but I know of not a shred of evidence as to whether the values that they came up with are high or low or right on the nose.

Most of the people in industry say, with very little hard evidence to back it up, that the estimates are low. Most of the people not in industry say, with an equal lack of evidence, that the estimates are high.

As far as I know, they are the only honest-to-God estimates that have ever been made, and until I have seen better, I am inclined to accept them.

Mr. ROONEY. Doctor, this is the frustrating part of being a Member of Congress. You are going out into your district, you are talking about the job OSHA is doing, and people are complaining about OSHA every day of the week, and you are coming out with certain standards and EPA states your standards are not high enough. It is very difficult for us to explain to our constituents.

It is very difficult for us to get a bill passed through Congress that will serve both parties.

I think both of you ought to get together and iron out your differences. For instance, how many qualified noise-control experts does OSHA have available to assist you in some of these problems?

Dr. VAN ATTA. In the first place, I am not quite sure what a qualified noise-control expert is. Certainly EPA has a much larger staff than we do in this particular field.

Mr. ROONEY. More qualified?

Dr. VAN ATTA. I don't know that they are more qualified.

Mr. ROONEY. Their staff is larger?

Dr. VAN ATTA. Yes.

Mr. ROONEY. What is your budget in this area?

Dr. BOYD. $4.8 million overall, the noise standards area being a small part of it.

Mr. ROONEY. Why is noise so irrelevant?

Dr. BOYD. Noise is not irrelevant.

Mr. ROONEY. Why is it such a small part of your budget?

Dr. BOYD. When you look at the total jurisdictional authority of OSHA, those 4.5 million workplaces it covers includes hazards much more severe than noise.

For instance, the carcinogens, vinyl chloride, are hazards that cause death in the workplace. It is a matter of priorities, sir. I would like to point out that OSHA, although having only a small staff devoted to noise problems, does have a much larger base of technical expertise to draw upon in the National Institute of Occupation Safety and Health (NIOSH). NIOSH's budget approaches $32 million.

Mr. ROONEY. What are the benefits to health and welfare of the 90 dBa rule versus an 85 dBa rule?

Dr. VAN ATTA. They are almost not distinguishable.

Let me preface this by saying that this is necessarily an interpretation because studies of what happens to people over 35 or 40 years of continuous exposure to anything in industry are kind of hazy, but the best evidence that we have is that, if people are exposed at 90 dBa for 30 years continuously 8 hours a day, about 2 percent of them will have

a hearing impairment of 2 decibels, which, incidentally the smallest division on an audiometer is 10 decibels.

If they are equally exposed at 85 decibels for the same 30 years, none of them will have a measurable or an estimable hearing impairment. The difference between the two in terms of people is that you are saving 2 percent of your population from 2 decibels impairment roughly.

Dr. BOYD. I might point out that the proposed standard has in it several provisions that will go a long way to protect that 2 percent.

For example, monitoring and a hearing conservation program including audiometric testing at 85 decibels.

Mr. ROONEY. Off the record.

[Discussion off the record.]

Mr. ROONEY. Did OSHA rely for getting the 90 dBa standard on an ILO panel of experts?

Dr. VAN ATTA. Did we rely on that?

Mr. ROONEY. Yes.

Dr. VAN ATTA. No, we made this proposal a long time before that panel was convened. It was nice that they agreed with us. They agreed with us. We didn't agree with them.

Mr. ROONEY. How can OSHA rationalize that a 90 dBa level is too costly when, in fact, several estimates of the Department have instituted such a standard and apparently have not found the extra cost of their facilities to be excessive?

Mr. SCHULTE. I think the one thing that must be borne in mind is that we must have our standard apply across the board. It would be difficult for us to say that one industry has to meet one standard and another industry does not need to meet it.

I think therein lies some differences of opinion as to what I heard here with EPA, that is, they would phase down on certain industries. But in our administration of this act, there are difficulties in discriminating between industries and maybe make our standard apply more severely to one sector than the others.

Mr. MINTZ. Mr. Chairman, at no time during this hearing was there actually an outline of the OSHA procedures for the promulgation of the standard. I believe that would be relevant to our discussion, if I may take a moment.

Under the act, section (b), the Secretary publishes a proposed standard in the Federal Register. After that proposal is published, there is a period for written comment, usually 30 days. In this case it was extended twice. We have had, I understand, upward of 800 comments, showing a great deal of interest of the public.

We have and are continuing to examine and study these comments. There is a public tentatively scheduled at the beginning of May in which interested parties will present testimony, and there will be limited cross-examination of witnesses.

On the basis of the written comments and the transcript of the proceedings and the deliberations of the Advisory Committee on Noise, which was held some time ago, the Secretary will make a determination as to what a proper standard on noise will be, and that will be the final standard published in the Federal Register.

Under the act, any interested party will have a right to challenge our standard in the court of appeals within 60 days after its promulgation.

52-021 O - 75 - 3

During the course of the public hearings we would anticipate a considerable amount of evidence on many of the issues that we have spoken about.

In the written comments, there was much valuable data such as on the evidence of economic and technical feasibility. There are other issues that have been posed during this comment period.

For example, some representatives of industry have raised the question of whether or not personal protective equipment, by itself is sufficient to protect employees from the hazards of noise without any requirement for engineering controls being necessary.

Our proposal rejected that particular approach because of the administrative difficulties involved in assuring the use of protective equipment. In any event, our proceeding is getting under way at this time and there will quite likely be the most extensive record that OSHA has ever had in standards proceeding. So far as the Bolt, Beranek & Newman study on economic feasibility, we may anticipate some other studies will be offered which may question or supplement the Bolt, Beranek & Newman study on that particular issue.

In the recently completed vinyl chloride hearing we had a study on economic feasibiilty of our proposed standard, and industry came in with its own study. It is the purpose of the act and procedures under the act to give the widest possible opportunity to all interested parties to present to us the evidence necessary for us to make a sound judgment.

Even after that, there is opportunity for court review if there are differences of opinion.

Mr. ROONEY. What did you think of a mandatory resolution of the dispute between the agencies over the levels of noise?

Mr. SCHULTE. I am not sure I understand that, Mr. Chairman.

Mr. ROONEY. A mandatory resolution of the dispute between agencies over levels of noise.

Mr. SCHULTE. It would appear to me that since our act's procedures require us to propose standards, and have public hearings to get public comments from those affected by the standards and to make a decision based on this record, an arbitrary or mandatory resolution would contravene these procedures.

Mr. ROONEY. I know, but suppose we have public hearings and then come up with some kind of mandatory resolution?

Mr. SCHULTE. You are saying mandatory resolutions between the two agencies?

Mr. ROONEY. Yes.

Mr. SCHULTE. Mr. Mintz, would you like to comment on that?

Mr. MINTZ. Mr. Chairman, one agency has the authority to take the action, in this case the Labor Department. The purpose of the provisions in the Noise Control Act is to make sure that in taking that action the views of the other Agency, EPA, with considerable expertise in the area of noise, should be given consideration by the Labor Department.

Now this is, as I understand it, similar to the approach of the National Environmental Protection Act as to the filing of environmental impact statements. The purpose that Congress had in mind was to make sure that the agency taking an action will have the view of other agencies before it when it goes through the process of making the decision.

Now we do have the views of EPA on the noise standard. This is part of our record, and it will be given great consideration in terms of our final standard. A possible mandatory resolution of disputes between the agencies raises questions as to who would make such a decision as between the agencies and on what basis they would make it. The comments of EPA earlier at this hearing before suggest that there are differences of views in terms of different premises which explains why they have one approach and we have another approach.

Mr. ROONEY. It is shocking to me to listen today to a dispute between OSHA and EPA.

You are so far apart on this subject matter that I think something ought to be done.

What can EPA do if it totally disagrees with your final regulations?

Mr. MINTZ. That is a question which probably should have been asked of EPA. There is a provision in the Clean Air Act, if I am not mistaken, which refers to the possibility of bringing matters of this type to the CEQ, the Council on Environmental Quality. I am not sure exactly of what the scope of that referral would be and what the outcome of such a referral would be.

As of this time, we have followed the requirements of the Noise Control Act in publishing our response to EPA's views.

Mr. ROONEY. Can CEQ force EPA or OSHA to revise proposed noise standards?

Mr. MINTZ. I cannot answer that question. I am not in a position to interpret the provision in the Clean Air Act.

Mr. ROONEY. Let us go back to the 85 decibel level which you think is unreasonable.

Dr. VAN ATTA. I am sorry; I did not say I thought it was unreasonable. I said I thought it was unnecessary.

Mr. ROONEY. Why?

Dr. VAN ATTA. Because, as I said, the net result of lowering the level 5 decibels will be to protect the population from 2 decibels hearing impairment. I think you will get that very small grade of protection at a very high cost.

Dr. BOYD. Mr. Chairman, I feel that I should address a remark to your comment about the belief that there is a wide gulf between the two agencies.

Sir, I don't think that is true. When asked about the dispute between OSHA and EPA, I have asked, "What dispute?" What you have heard EPA testify and Dr. Van Atta suggest is that this so-called dispute is a dispute between the scientists of the world and not an Agency dispute. I would like tthe record to show that.

Mr. ROONEY. Do you work in conjunction with one another? Do you have lab tests? Do you consult with EPA and do they consult with you on certain standards?

You say they deal with environment, you deal with safety regulations. Do you consult with one another?

Dr. BOYD. In this particular instance, the OSHA proposal on noise, yes, we met many times and tried to resolve the differences that arose between the technicians in both agencies.

So, on this particular case, the answer is yes.

Mr. ROONEY. Now I am going to quote from the testimony given by Mr. Roger Strelow:

The evaluation in our "Levels Document" indicates that continuous exposure to urban environmental noise levels averaging more than a 70 decibel level over a 24-hour period may be harmful to health, especially when combined with shorter, more intense noise exposures in the workplace, during travel and at recreational pursuits.

You are talking about working 8 hours a day at 85.

Dr. BOYD. Or 90.

Dr. VAN ATTA. This is purely a question of how you define——

Mr. ROONEY. Do you mean to tell me this is not a dispute between your agency and EPA?

Dr. BOYD. No, sir, we admit that from a comparative risk perspective, there is a considerable difference between 70, 85, and 90. I assume the zero level of risk would be absolute silence. I don't believe that we are ever going to achieve that in the workplace. So, we are willing to admit that from a risk perspective there is a difference.

But we are concerned and our legislative act makes us be concerned with protecting the worker against material impairment of his health or functional capacity during a complete working lifetime. At this point in time we believe that the 90 dBa proposal with the audiometric testing and monitoring at 85 does that.

Mr. ROONEY. Mr. Schwartz, do you have any questions?

Mr. SCHWARTZ. I have a few questions.

Am I correct that you regard a 5 decibel difference as measurable and significant?

Dr. VAN ATTA. A 5 decibel difference between what?

Mr. SCHWARTZ. Between 90 and 85.

Dr. VAN ATTA. Yes, in sound level and under perfect conditions you can measure a hundredth of a decibel.

Mr. SCHWARTZ. Are you saying that the 2 decibel reduction in hearing for 2 percent of the people is not significant for those 2 percent of the people?

Dr. VAN ATTA. I said it was not measurable, and it is not measurable. Audiometrically you really cannot measure less than 10 decibels.

Mr. SCHULTE. I would like to suggest that from 90 to 85, moving down, is what percent reduction?

Dr. VAN ATTA. 45, 50 percent somewhere in that range.

Mr. SCHULTE. 45 to 50 percent reduction in the sound level, which is a very appreciable reduction.

Dr. VAN ATTA. There is a very substantial difference between audiometric measurement of hearing and physical measurement of sound level. Audiometric measurements are not all that accurate. That 2 decibels is strictly a calculated figure.

Mr. SCHWARTZ. What is the basis for your determination that the difference between exposure to levels of 85 and exposure to levels of 90 does not result in a significant hearing impairment?

Dr. VAN ATTA. This is the result of averaging measurements over a large number of people for a long time. It is a calculation from average values, actually not from average values, from the 98th percentile of average value.

Mr. SCHWARTZ. Would persons who are susceptible to hearing loss be inclined to suffer more as a result of that 5 decibel increment than persons who were not susceptible?

Dr. VAN ATTA. I would assume so personally, but that is another question which is not all that open and shut. There is a considerable amount of evidence that the people who are not sensitive in the beginning eventually will develop the same loss of hearing as the people who are sensitive and lose faster in the beginning. It is not a thing on which I would care to make a dogmatic statement.

Mr. SCHWARTZ. If I understand correctly, then your disagreement with EPA is not only about the effect on health that will ensue, given the two different decibel levels, but also a difference about the cost of control, the amount of those costs, and whether or not those costs are justified to achieve that improvement, is that right?

Dr. VAN ATTA. I could not be sure whether there is disagreement about that last thing or not because I am not at all sure what they think about it. They have not said except that our figures are wrong.

Mr. SCHULTE. Our standard has to be supportable in a court of law. We feel that the criteria on which we based this proposal was at the time of the proposal supportable in a court of law, taking into consideration the purpose of the act.

Now, the hearing may disclose other data which may persuade us to change our proposed standard. But at the time we made our proposal, and up to the present time, I think I can state we do not have data that we feel would support going to something other than 90 dBa that would be supportable in a court of law.

Mr. SCHWARTZ. Will the 90 decibel level prevent all the adverse health effects from occurring in the susceptible and nonsusceptible alike? Will there be no adverse effect at 90?

Dr. VAN ATTA. Let me say there will be no appreciable hearing impairment.

Now that perhaps is not a direct answer to your question, but that is the only way in which I can answer your question because I do not know how you define adverse health effects.

If you define adverse health effects by having your conversation interrupted by noise, there will be in that sense an adverse health effect.

Mr. ROONEY. Mr. Kovacs.

Mr. KOVACS. Does there exist in the executive branch an interagency review process for all safety, environmental and health activities?

Mr. MINTZ. I am sorry. This is pursuant to an OMB directive, is that correct?

Mr. KOVACS. At one time about a year ago they set up what they called an interagency review process in which the agencies directly involved in the environmental and health legislation would get together and attempt to reconcile the differences.

I was wondering if OSHA participated in this process.

Mr. MINTZ. We have on some occasions participated under the auspices of OMB in discussions with other agencies regarding standards that we were working on. For example, we had such a discussion with OMB and EPA regarding the vinyl chloride standard. I don't know if there is a regularly functioning procedure of that nature.

Mr. KOVACS. What I am getting at is, is there any pressure from OMB, let us say, because of the cost factors involved between the 85 and 90 dBa, to keep the 90 dBa as the standard?

Dr. BOYD. No, there is not.

Mr. SCHULTE. I will say that I personally met with Dr. Meyers and representatives of OMB at OMB about the noise standard. We discussed the noise standard fully at that time. We had such a meeting.

Mr. MINTZ. If I may make one additional comment on the so-called economic feasibility factor, there is a court decision handed down by the U.S. Court of Appeals for the District of Columbia in connection with our asbestos standard called *Industrial Union Department* versus *Hodgson*. In that case the court held that economic factors were appropriate factors for the Secretary of Labor to take into account in promulgating standards.

This has been affirmed in other court opinions since then. We have both in the language of the act and the interpretations by the court a basis for taking economic factors into consideration. The court was very careful to emphasize that cost of compliance is not the only factor or even the most important factor. The necessity of protecting the employees is the overriding consideration.

Compliance with standards will cost the employers a great deal of money, and this was recognized by Congress. However, cost factors may be a consideration, and the court so held.

Mr. KOVACS. We have discussed problems with hearing, deafness. What about the psychological factors of noise? Do any of your reports get into that?

Dr. VAN ATTA. There has been a very large number of studies of these types of factors, increase in blood pressure, increase in secretion of glands, internal secretion, nervous tension, muscle tension. They are all uniform in only one thing. They are totally inconclusive. There is nothing you can put your finger on and say this is fact.

Mr. KOVACS. How many people have you had in OSHA looking into that problem?

Dr. VAN ATTA. Just me.

Mr. KOVACS. What is your background?

Dr. VAN ATTA. My background is 40 or 45 years in occupational health, and since about 1956 largely in occupational noise exposure.

Mr. ROONEY. How many people are out in the field investigating all of these noise problems as far as OSHA is concerned?

Mr. MINTZ. The compliance staff at the present time is all in all 800 compliance safety and health officers.

Mr. ROONEY. Is this strictly dealing with noise?

Mr. MINTZ. No, that is dealing with all the occupational safety and health standards.

Mr. ROONEY. How many complaints have you received from unions or individuals about noise problems in industry?

Mr. SCHULTE. We will be happy to furnish that for the committee.

Mr. ROONEY. Will you supply that for the record, please.

[The following letter was received for the record:]

U.S. DEPARTMENT OF LABOR,
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION,
OFFICE OF THE ASSISTANT SECRETARY,
Washington, D.C., April 18, 1975.

Hon. FRED B. ROONEY,
Chairman, Subcommittee on Transportation and Commerce, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR MR. ROONEY: This is in response to the question you posted at the March 24, 1975, House Subcommittee on Transportation and Commerce hearings on the 1972 Noise Control Act. The question concerned the number of employee complaints about excessive noise in the workplace. I submit for the record the following information concerning enforcement of the Occupational Safety and Health Administration's (OSHA) noise exposure standard.

OSHA does not compile data indicating the number of complaints received concerning excessive workplace noise. There is data, however, indicating the number of tests conducted by OSHA for violations of its occupational noise exposure standard. These tests may arise during an OSHA workplace inspection or from specific complaints about any workplace hazard, not solely from complaints about excessive noise. A total of 9,552 such tests have been conducted since OSHA's inception in April 1971. Of that number, 2,269 tests arose from complaint inspections and 7,283 tests were held during other OSHA workplace inspections. In (calendar year 1974, 4,744 tests for noise were performed, with 867 arising from complaint inspection and 3,877 during other OSHA inspection visits.

I wish to express my appreciation and that of those appearing with me, Dr. Daniel P. Boyd, Dr. Floyd A. Van Atta, and Mr. Benjamin W. Mintz, for the opportunity to discuss OSHA's proposed noise standards with you and the members of the subcommittee. If I may be of further assistance, please advise me.

Sincerely,

HOWARD J. SCHULTE,
Deputy Assistant Secretary.

Mr. MINTZ. Mr. Chairman, I would point out we have had a number of citations dealing with noise which are being litigated before the independent Occupational Safety and Health Review Commission. One of these cases is before the U.S. Court of Appeals involving the B. F. Goodrich Co., raising issues as to the enforcement of our noise standard. So, the noise standard is a subject of active enforcement at the present time.

Mr. ROONEY. Thank you, gentlemen. I think that will conclude your testimony this afternoon. I thank you very much for coming.

Our next witness will be Mr. Arthur Fox, director of PROD.

Mr. Fox, you identify yourself as director of PROD. Will you identify PROD for the record.

STATEMENT OF ARTHUR FOX, DIRECTOR, PROD

Mr. Fox. PROD is a public interest, nonprofit corporation which is composed of some, at this point, 1,150 dues-paying members, all of whom are professional interstate truckdrivers. All of them have been assaulted over the years by very large volumes of noise when driving the heavy-duty tractor-trailer-type combinations.

It is in that connection that I, some years ago, about 2½ years ago to be precise, became rather interested in noise.

Our primary objective is to represent the interests of our members, but we believe that our members' interests are identical with the public interest in this way of thinking. If a truckdriver is not safe, or is not healthy when driving his truck, it poses a direct threat to the public safety as well.

I say that I became interested in noise some years ago. It was just after the Noise Control Act had been enacted, and I was hoping to encourage the Department of Transportation at that point in time to promulgate regulations setting in-cab noise levels or limits to protect the professional truckdrivers.

Now, the reason why I was going after the Department of Transportation is because under section 4(b) of the Occupational Safety and Health Act all employees are exempted from its coverage who are currently under the protective auspices of another Government regulatory agency.

In this particular case it is the Department of Transportation which has jurisdiction over the safety, whether or not the health of truck-drivers is subject to some dispute, but they are claiming that authority as well.

At that point in time I developed correspondence with a number of leading noise experts, audiologists, around the country. I did a literature search and found out who was publishing on occupational exposure to noise. I asked them if they would cooperate with me in terms of participating before the Department of Transportation to assist it to better understand what it was trying to do.

I don't claim, myself, to be an expert in noise, but I have developed some expertise through my interest as the director of the Professional Drivers Council.

Since the object of this hearing is the Environmental Protection Agency's authorization and continuation of the implementation of the Noise Control Act, I address my comments primarily to that law.

When EPA, under section 18 of the act, began to propose regulations covering existing trucks—these are called the motor carrier regs—but the trucks purchased and on the highways, I participated in that proceeding, and my chief objection to the proposed and promulgated regulations is the fact that they permit noise degradation.

Mr. ROONEY. We have a regular quorum call at this moment. So we will be adjourned for about 5 minutes until I get back.

[Brief recess.]

Mr. ROONEY. You may proceed, Mr. Fox.

Mr. FOX. Thank you, Mr. Chairman.

As I recall the point of departure, I had just begun to mention the in-use truck regulation which the Environmental Protection Agency has promulgated.

A year ago we were having hearings on that. It calls for no greater than 90 decibels exposure at 50 feet as trucks pass by.

Mr. ROONEY. Explain that now.

Mr. FOX. Do you know how loud 90 decibels is?

Mr. ROONEY. Yes.

Mr. FOX. You basically must shout at another person at arm's length in order to be understood. It has a masking effect that you must really exert your lungs to overcome the noise.

Noise doubles for every doubling of distance. So, at 20 feet you perceive half as much noise as one would perceive at 10 feet. At 50 feet half as much as at 25; as you approach this truck which at 50 feet sounds as though it is producing 90 decibels; you get to 25 feet, you perceive that it is twice as loud; 12½ feet, and so on.

So, if you are in a passing car on an interstate highway with your windows rolled down going past one of these vehicles, 6 feet away from it you are being exposed to an enormous quantity of noise, or can be exposed to a much greater level if that truck is in compliance with that standard which EPA has promulgated, 90 decibels at 50 feet.

The driver of the vehicle, if he has his windows rolled down, is being exposed to that much greater at 90 decibels exposure of noise.

Now the Department of Transportation has promulgated a 90 decibel noise limit inside the cab of a stationary vehicle with the windows rolled up, all appliances turned off, and you give the motor a station-

ary idle run up to the governed rate and then back down again. At the high rpm level the noise is not supposed to exceed 90 decibels.

We all know in fact and they readily admit this is not the best regulation; they would like to do better but they can't enforce anything else, they don't have the personnel, equipment, and so on, so that is the standard they have adopted.

Truck tire noise actually at high speed is the particular component of the noise which is greater than the exhaust, air intake, fan belt noise. Even the EPA has proposed at this stage in time to do nothing to hold back on the noise that is produced by truck tires.

We have been talking about EPA, DOT. The DOT now, to a certain extent, is a parallel agency to OSHA. We have talked about the interrelationship between EPA and OSHA. DOT occupies the same role that OSHA occupies inasmuch as it is a minioccupational health and safety organization.

I, for one, think that Section 4 of the Noise Control Act makes a great deal of sense. I would like to see it beefed up. Section 4 is the one which basically puts EPA in the driver's seat for all Federal regulatory agencies concerning noise.

It does, however, give EPA no more or less authority than simply to challenge another agency to justify what it is doing. This is what I hope someday EPA will do at the DOT. For the time being they have picked on OSHA because the impact of the OSHA regulations will be far greater perhaps—it is arguable—than the DOT regulations.

I think the DOT regulation impacts one whale of a lot of people because of the fact there are so many people on highways in automobiles. But be that as it may, I think this kind of internal controversy, and I don't see it as friendly, I from the outside, but talking to many people inside of EPA, my services being sought out and advice and so on on how to deal with OSHA in an administrative hearing sense, this is not gentlemen talking around the clubroom, this is a raging controversy going on between OSHA and EPA, contrary to what the witness earlier today had indicated. That is my characterization of it.

I think that OSHA's definition of a hearing impairment leaves a great deal to be desired. They have simply sought out a quasi-credible standard which is one which has been followed for eons by this medical community that they referred to.

Basically what the medical community defines as hearing loss is the inability to perceive certain high frequency sounds in ordinary human conversation under normal speaking circumstances. You can have an awful lot of hearing loss. You can go to a symphony orchestra and not be able to hear the violins, piccolo, and so on under this international standard which OSHA has latched onto and says: "This is what justifies the 90-decibel standard we plan to promulgate."

OSHA has also indicated to this committee today that they are only in the course of rulemaking, and after the hearing, which they plan to hold in May, they will review all the evidence and then they will promulgate regulations based on it.

Really, this is a show, this hearing, to my way of thinking. It is essentially mandated. EPA has been the catalyst for this hearing. I doubt it would ever have happened had EPA not called them to task. They are just going through the motions to build a record to make it look as though they are sensitive to this opposition and so on.

EPA had a great deal of discussion, debate, conversation with OSHA long before OSHA even proposed this perpetuation of the Walsh-Healey 90 decibel noise ceiling. They made every one of their arguments prior to OSHA's proposing their initial occupational safety and health standards.

If OSHA was going to pay any attention to the argument that EPA was making, they would have paid attention a long time ago and we would not find ourselves in this public controversy that we now have.

I do think that it is important for this committee to recognize the fact that to the extent it has shown interest in this controversy between EPA and OSHA, all stemming from section 4 of the Noise Control Act, in the fact that the OSHA standard, the 90-decibel standard which they claim would protect against material impairment of health, perhaps they are saying some impairment of health is all right so long as it is not material, and what material means is, of course, a subject of their great wisdom and discretion, so the courts would say.

Now you have also mentioned this afternoon the litigation here in the D.C. Court of Appeals, the *Industrial Union Department* v. *Hodgson*. I was an attorney of record in that case, bringing the first suit contesting OSHA's rulemaking authority. Nowhere in the OSHA Act, unlike this act, is there any mention of economics. It only says that they are to promulgate the best regulations to the extent feasible to protect against any material impairment due to an exposure over an entire lifetime.

I argued before the court of appeals, and my argument was rejected, that the word "feasible" meant scientifically feasible. Indeed, we had a great deal of congressional history on that subject, but nonetheless the court of appeals threw us out and said economics is a valid criterion.

Be that as it may, this is where we are today. This is the standard by which any court of appeals will ultimately review the OSHA standard once it is indeed promulgated.

My reading of the Noise Control Act and the Clean Air Act and so on, I don't see that the role of CEQ is totally defined; I don't see that CEQ is having any real statutory authority conferred upon it by the Congress. The EPA has authority conferred upon it by the Congress in the Noise Control Act only to go so far, and that is to bring this whole controversy out in the public limelight, conceivably to embarrass OSHA to the point it might relent and come back somewhat from its 90-decibel standard to 85, which is still going to result in hearing impairment, perhaps not by their doctors' definition, but a person exposed to even 85 decibels over a lifetime working exposure is going to have a reduction in this hearing threshold in terms of perceiving the high frequencies, the type that are emitted by piccolos, and violins, and other high-pitched noisemaking instruments.

So I don't see 85 as being a very wonderful standard either. I frankly wish that EPA had asked for an 80 standard, and then perhaps they might have settled in the middle. They would have had room to negotiate.

Be that as it may, I feel the extent to which Congress did in the Noise Control Act confer upon the Environmental Protection Agency an adversary role to act on behalf of the public interest, I wish they

had more authority than that, frankly, but to the extent that they are the adversary, I think this is a remarkable and very fine innovation in government to have one agency pitted against another, because too frequently the person who is really supposed to benefit from these laws is nowhere to be heard from.

To the extent that you have one agency in a battle with another agency, and I do see it somewhat as a battle, contrary to what we have been told, I think this is very, very healthy in terms of sound governmental procedure.

Mr. ROONEY. You noticed when I asked a question today it went right over and then it was corrected maybe 5 or 6 minutes later?

Mr. FOX. Yes, I noticed.

Mr. ROONEY. There is obviously a tremendous difference of opinion between both agencies.

Mr. FOX. That is true.

Now I would just like to briefly go through the history of EPA's implementation of this law. To the extent that I may be covering ground already covered—I regret I did not hear the entire presentation by the Environmental Protection Agency—please stop me and I will move on.

Under the Noise Control Act, the Environmental Protection Agency was required to publish a "Criteria Document," analyzing the effects of different noise levels on society at large, on individuals and so forth; to develop a new area of science which quite correctly has been represented as having been virtually, it is really a novice area, it has not been thoroughly explored before, and the Environmental Protection Agency is charged with an enormous responsibility in trying to develop what is essentially a new science.

Within 9 months they were to publish this "Criteria Document." They also were to propose regulations for locomotives and interstate motor vehicles.

They did publish the "Criteria Document." They did propose regulations for motor vehicles. It wasn't, however, until 20 months later, in July 1974, that they even proposed regulations which have yet to be promulgated for railroad locomotives.

In September of 1973, however, just short of the 1 year of the law's anniversary date, I believe it was David Dominick and Alvin Meyer who were called to the Senate Joint Commerce and Public Works Committees' oversight hearing, and at that time Mr. Dominick testified, this was on September 24, 1973, that "We believe we have undertaken needed staff expansion and are substantially meeting the requirements under the act"—referring to the Noise Control Act—"in an expeditious and efficient manner."

He also indicated they were on target, they were on time with regard to meeting all requirements.

I don't know why somebody didn't call his attention to the fact that no regulations had yet been proposed for railroad locomotives, but they didn't.

In any event, 3 days later the Administrator of the Environmental Protection Agency sent a letter, which I have made available to the committee and to the reporter, in which Mr. Train basically stated—this was a letter from Mr. Train to Roy Ash—on page 9 of that letter

Mr. Train essentially represented to Roy Ash at OMB that the Environmental Protection Agency was holding the growth of the noise program to a low level of growth.

Now I will explain to you how I got my hands on that. I did not get my hands on that until September of this year. Subsequently a group of some nine Senators wrote a letter to Mr. Train protesting the delays which they noticed the Agency had inflicted on the public in implementing the Noise Control Act.

The final document I have made available is Mr. Train's reply, and this particular one was the letter addressed to Senator Tunney. I think all of those letters are of considerable interest.

Mr. ROONEY. Without objection these letters will be made part of the printed record of this committee.

[The letters referred to follow:]

ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 27 1973

OFFICE OF THE ADMINISTRATOR

Dear Mr. Ash:

By separate cover, we are transmitting our 1975 budget request to your staff, and I am transmitting herein a preliminary set of our 1975 objectives for your Management by Objectives System. This submission is being augmented by a series of briefings, various backup materials and a series of formal hearings scheduled for October 1 through 5. I would, however, like to take this opportunity to relate the strategic and programmatic considerations that underlie our 1975 budget submission.

1975 Outlook

In the formulation of our budget request, we recognized that 1975 will be a particularly critical year for most of our programs. The enactment of new and expanded legislation during the past three years, together with recent court decisions, has promulgated a set of program requirements for 1975 and 1976 which will be difficult to meet. These will be further complicated by the expected enactment of the Safe Drinking Water Act and the Toxic Substances Act which will require immediate implementation. Therefore, I would first like to review with you some of the programmatic prospects we foresee in 1975.

Air Program Implementation of the Clean Air Act Amendments of 1970 will reach a major milestone in 1975 when compliance with primary ambient air quality standards is to be achieved. You will note that this is the second objective in our Management by Objectives submission. This will place an expanded workload on the States as well as EPA for air compliance monitoring and enforcement. We also expect that 1975 will be a critical year in the implementation of transportation plans and regulations and procedures for dealing with complex sources and non-degradation controls. Finally, we foresee the need in 1975 to press forward with the expansion of our mobile source enforcement activities so that we can make further

Plaintiff's Exhibit "C"

headway in reducing the contribution of transportation emissions to air pollution. In short, we believe that 1975 will be a crucial year in the implementation of the Clean Air Act and we strongly believe that every possible effort must be made to successfully achieve the 1975 goals prescribed in the Act.

Water Quality Programs Fiscal year 1975 will also be an important year in the implementation of the Federal Water Pollution Control Act Amendments of 1972. The issuance of municipal and industrial waste discharge permits will be completed (another objective in our Management by Objectives submission) and compliance monitoring and enforcement of these permits will begin. The several planning processes directed by the Act will be fully implemented and the construction grants program will reach a higher level of activity because of the authorized increases in funding. In addition, EPA and the states will have to begin to develop systems for the control of non-point source pollution pursuant to provision of the Act. In summary, 1975 will require maintenance of the increased tempo begun this fiscal year to carry out the ambitious objectives of the 1972 Amendments.

Pesticide Program Full implementation of the Federal Environmental Pesticides Control Act of 1972 will begin in 1975. The Act requires that all existing interstate pesticide products be classified and re-registered for either general or restricted use and that all intrastate products, which have not heretofore been Federally registered, be similarly classified and registered. These tasks could easily double EPA's present registration workload. The training and certification of pesticide applicators will have to be initiated in order to permit the use of restricted products. Also, enforcement of the proper use of pesticide products will have to be initiated. It is intended that these latter activities will be carried out by the states, but considerable technical assistance will be required of EPA because of the prevailing weaknesses of state pesticide programs. Finally, a variety of other activities will have to be initiated or expanded to implement fully the 1972 Act.

Noise Control Program Continued implementation of the Noise Abatement and Control Act will principally require the promulgation of product standards and label regulations for those types of equipment which are major emitters of noise. Other activities of this new program such as coordination of Federal noise research and technical assistance will have to continue. Development of an EPA noise enforcement program and increased assistance to state and local agencies to encourage their development of viable noise programs would be highly desirable.

actions. The resources required to perform this task could easily be double those we currently have engaged in our registration program. We intend to achieve substantial efficiencies in our processing of registrations but, even with this relief, it is evident that considerably more personnel will be required than can be afforded by our proposed within-ceiling increase. Consequently, we are proposing and strongly recommending an over-ceiling increase of 94 positions and $2.0 million.

Beyond the registration requirements, the 1972 Act calls for the training and certification of pesticide applicators and the enforcement of proper use of pesticide products. We are proposing no increases for these activities in our within-ceiling request and will be able to give little support to these activities within existing resources. As a result, we are depending on the states to carry out these efforts, even though the prospects for this strategy do not look promising. We, therefore, are proposing an over-ceiling item of 30 positions and $0.6 million to augment our regional pesticide programs to provide technical assistance to the states, but we are foregoing, at this time, proposals for grant and contract assistance to the states to help support certification, training and enforcement activities. It should be recognized that this strategy could result in poor implementation of the most valuable provisions of the 1972 Act, those dealing with controlling the proper use and application of pesticides.

Noise Program: The principal effort of this program in 1974 and 1975 will be the development of product standards and label regulations required by the Noise Abatement and Control Act of 1972. We are proposing a within-ceiling increase of 10 positions and $1.2 million. This will permit us to develop about half of the standards and regulations deemed necessary for promulgation during this period.

This within-ceiling increase will not permit the development of regional noise programs to assist State and local agencies to develop and establish noise control programs. Therefore, we are requesting an over-ceiling item of 15 positions and $0.5 million to undertake this important activity. In summary, we are holding the Noise Program to a low level of growth and consciously stretching out the full implementation of the 1972 Act.

Water Supply Program: We anticipate enactment of the Safe Drinking Water Act sometime this fall. In order to meet the six-month deadline for the publication of standards and to begin implementation of the other provisions of this Act, we intend to submit a 1974 supplemental budget request for 30 positions and $2.0 million. We have also included these same resource levels in our 1975 within-ceiling request. These resources will enable us to promulgate the drinking water standards and begin the special studies required by the Act. They also will enable us to augment our regional staffing to assist the States in implementing and enforcing

United States Senate

WASHINGTON, D.C. 20510

October 15, 1974

Honorable Russell E. Train
Administrator
Environmental Protection Agency
Waterside Mall
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Train:

We must express our misgivings about the manner in which the Environmental Protection Agency is implementing the Noise Control Act of 1972. The Agency's apparent failure to meet its statutory deadlines under sections 6, 17, and 18 and its delay in proposing recommendations under sections 7(b) and regulations under section 8 compel us to ask you to review the Agency's performance under the Act.

Specifically, the following regulations and actions required by the Noise Control Act are among those which the Environmental Protection Agency assured us it would complete during fiscal year 1974:

1. Proposal of regulations to limit major noise sources and regulations for product labeling;

2. Promulgation of noise control regulations for railroads and motor carriers operated in interstate commerce; and

3. Proposal of recommended aircraft noise regulations to the Federal Aviation Administration for promulgation.

The present director of the Office of Noise Abatement and Control also had been consulted on all of these deadlines prior to passage of the Act and gave assurances that they were reasonable and attainable.

None of these requirements under the Act has yet been completed.

We also are concerned that the Environmental Protection Agency is currently being sued in an effort to compel the proposal of major noise source regulations, which were required by law to be published by April 27, 1974. We understand that these proposed regulations are still not ready.

Additionally, in the past year, several of us have expressed to you our concern that the Environmental Protection Agency has not been meeting its

statutory requirements. Now we have received a letter from several organizations that suggests the Agency's noncompliance with the Noise Control Act is deliberate.

That letter (a copy of which you received) enclosed a copy of your September 27, 1973, letter to Roy Ash. In the September 27th letter you stated that "we are holding the Noise Program to a low level of growth and consciously stretching out the full implementation of the 1972 Act". Yet on September 24, 1973, witnesses from the Environmental Protection Agency told a joint hearing before the Committees on Public Works and Commerce that the Agency had sufficient staff and resources to meet the requirements of the Act in an effective and timely manner. This is a serious contradiction. We would appreciate your explanation.

The failure to comply with statutory deadlines and other requirements under the Act perhaps could be justified if accompanied by complete, timely and accurate presentations to the Congress of technical difficulties, including requests for needed amendments to the law or additional funds and staff. No such requests have been made. On the contrary, the Environmental Protection Agency has assured our Committees that adequate resources are available and that regulatory and other actions provided for in the Act would be carried out expeditiously. Unfortunately, this has not been the case.

We look forward to receiving the results of your review.

With best wishes,

Howard Baker

Robert T. Stafford

Ted Moss

Jennings Randolph

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 21 1974

THE ADMINISTRATOR

Dear Senator Tunney:

In response to your letter of October 15, 1974, in which you and a number of your colleagues indicata concerns regarding EPA's actions in implementing the Noies Control Act of 1972, I am providing you with the following information as to varioue actions recently taken, prior to recsipt of your communication:

1. The Notices of Proposed Rulemaking for noise emission standards for new trucks snd new portabla air compressors (Section 6) have been sant to ths Federal Register for publication this week.

2. The Department of Transportation has been consulted with and concurred in the final rulemaking for interstata motor carrier regulstions (Section 18), and thesa regulations also hava been sent to the Federal Register for publication this week. Part of the delay in these regulations was csused by questions raised by public interest groups, affected industries, State and local governments, and members of Congress. It was necessary to rasolve these issues in an equitable manner before proceeding with final action.

3. An extensive investigation is underway into industry challenges to the cost and economic data associated with the Notice of Proposed Rulemaking for interstate rail carrier regulations which was issued on July 3, 1974. Wa ara moving for expeditious resolution of thoee iesues so that tha final rulemaking can be promulgated shortly.

4. An Advanca Notics of Proposed Rulemaking regarding the first labeling regulation (Section 8) has been clearad within EPA for publication in the Federal Register.

5. The first of the series of aircraft noiss regulatory proposals (Section 7) has cleared EPA's initial review process. The remainder are scheduled for review and clearance in the next several weeks. A firm schedule for completion of the majority of our EPA actions has been establishad, with a target date for submittal of the majority of these proposals to tha FAA during the Novembar 1974 - January 1975 pariod.

With regard to the comment es to our view of deadlines in the Noiae Control Act, several points are in order. Firat, then Adminietrator W.D. Ruckelehaus in a letter of May 15, 1972, to the Chairman of the Senate Committee on Public Worke indicated thie Agency'a views that the time limits proposed in S.3242 were unreasonable and that the Agsncy felt that those in H.R. 11021 (which were eubeequently enacted into lsw) were the minimum required to permit consideration of all of the thsn understood requirsmenta (including public participation). As wae discuased by Agency representetives with verious committee etaff psrsonnel, theee estimates were besed on the essumption that the Act would become law in time to allow the necessary etaff expaneion. Second, even had there been evailable the necessary resource authorizations immedietely after enactment (which simply was not possible) the late 1972-early 1973 Presidentially imposed hiring freeze effectively deferred the employment of needed psrsonnel. This markedly contributed to the cumulative deficiencies which this Program has been experiencing.

More importantly, however, ie the testimony given to the Senate Public Works Committee on April 12, 1972, regarding the relstionship of criteria and the "Levels Document" to the etandards and regulatory development proceee snd the time schsdules in the Act. It was clearly pointed out then that what has now become known as the "Levele Document" is the necessary precursor for initiation of the regulatory development proceee. As you know, e subetential ecientific controversy arose over thie document. Thie, together with concerns about its potential economic implicetions, deleyed its clearance and publication. The delay on thie key item had an effect on all of the regulatory ections of the Agency under the Act, and has been as much of e problem in our missed deadlines ae the limited resources. The fact that we have begun to move effectively in e number of "stalled" erees since publicetion of the "Levels Document" underscores thet point.

It is abeolutely untrue that there has been a deliberste or eny other type of effort on the part of thie Agency or its representatives to pressnt to the Congress a picture of adequate end satisfactory progress under the Act while in fect taking e different course. I have examined the statementa made by Agency witnesses at various hesrings. In psrticuler, I have noted that on September 24, 1973, the Assistant Administrator for Hazardous Materials Control stated in response to a question regarding the edequacy of resources the following:

> "EPA is like any other egency. You're just trying to juggle ell of its programs, all the mandatea it haa received from the Congress. We have vary heavy workloeds in both the air and weter eress, as you know. New bills have passed in thet erea...."

3.

"I can't say that the Noiss Control effort is high or low at this stage of the game. This is whers our balancing comes out. We certainly are going to need additional resources in FY 1975. We certainly are going to have to expand our activities in regions as these standards and regulations come into effect. We certainly are going to have to expand our activities in the enforcement areas. So we are looking for expansion of this program".... In response to further questioning..."ws've indicated that expansion of the budget for the Noiss Program is definitsly a priority item."

My September 1973 letter to the Office of Management and Budget cited in your letter dealt with the tight budget ceiling ws were given at that time. It reflected a resourcs situation, which as I shsll explain further, has been changed at my initiative. The statements of the September 24, 1974, Agency witnesses and my September 1973 letter are not inconsistent and were not intended as such at the time. They both reflected our honest judgment, at that time, that the Noise Program would meet its statutory requirements despite an admittedly less than desirabls level of resources, particularly in relation to activities such as technical assistancs through our Regional Offices.

The existence of resource constraints was included in the December 31, 1973 presentation by ths Agency to the staff of ths Public Works Committee. Those materials included information clearly showing the level of approved resources as compared with original estimates. This past March in my testimony before an oversight hearing of the Senate Committee on Public Works, I clearly stated that we fully recognized that the program was resource limited and that it would be necessary for the Agency to take some action to insure that the then existing level of effort would be expanded. In May of this year, the Assistant Administrator for Air and Waste Management provided interim authorities to increase the manpower resources of the Office of Noiss Abatement and Control. That increase provided for 20 additional positions for the permanent staff (a total of 75). I am enclosing a table showing the growth of resources for ths Offics of Noise Abatement and Control. You will note that we are presently proposing for FY 1976 continuation of the level of 75 plus 10 additional permanent positions for the Regional offices. We are also providing for 10 additional personnel in the Office of Enforcement. The present budget proposal called for approximately $7.7 million, an increase of approximately $2 million over that provided in FY 1975. We are presently recruiting for scarcs skills to fill these additional positions.

We have made a careful analysis of the requirements to produce in a timely fashion the number of regulations needed to reduce environmental noise levels to those that we estimated in our 1972 Report to Congress as being feasibls within availabls technology. The additional resources represent thoss needsd to provids the staff to initiate and undertake

those regulatory development actions and overcome the present deficiencies. We will continue our analysis of resource requirements to provide for such further growth as is needed to support those regulations, such as enforcement.

With regard to adequate notification of the Congress as to problems and delays, this is a matter of concern not only with regard to the Noise Control Act, but of all our responsibilities for regulations and other statutory requirements. While I believe that our witnesses at House and Senate hearings on the Noise Control Act over the last year have detailed problems which we are faced with and provided explanations regarding some of our difficulties, perhaps more definitive procedures may be appropriate. We have recently taken steps within the Agency to improve our review and followup on regulatory development schedules. We will examine this matter to rectify the apparent problems in this regard.

The problems that EPA has experienced in the early implementation phase of the Noise Control Act were real and unfortunate. We admit that we have not done as well as we all would have liked. But I believe the actions outlined at the beginning of this letter represent progress, which I intend to continue and accelerate.

Sincerely yours,

Russell E. Train

Russell E. Train

Honorable John V. Tunney
United States Senate
Washington, D. C. 20510

Enclosure

Mr. Fox. Thank you, Mr. Chairman.

At 12 months the Noise Control Act required the Agency to publish a document setting the levels for noise which should not—and this was sort of an optimum pie-in-the-sky goal—which should not be exceeded in an ideal world in order to protect public health and welfare.

That particular document did not come out until the 17th month, or 5 months after it was originally due.

Then at the 18th month the Agency was under a mandatory nondiscretionary obligation to identify major noise sources and to propose, just to propose, to initiate a rulemaking proceeding, noise-emission standards or levels for those products which they were identifying as being major noise sources.

When those two documents did not issue following the 18th month, I filed a notice of intent to sue under section 12 of the Noise Control Act. Within the 60-day notice period—I could not sue until 60 days had gone by and the Administrator had had an opportunity to correct his omission—within that period of time it did issue its document identifying noise sources. Heavy-duty trucks, medium-duty trucks, and portable air-compressors were identified as the first two major noise sources which the Agency was going to undertake to regulate.

Mr. ROONEY. Over and above airplane noises?

Mr. Fox. Yes. Aircraft noise—as a matter of fact, I had better defer in this area of the act because you will have much better equipped and expert witnesses testifying before the committee on aircraft noise tomorrow. In the area of aircraft, the Environmental Protection Agency is given a back-seat role. It is a little like the role they plan with OSHA. OSHA can do what they want but Congress knows that where aircraft safety/noise is inextricably bound, they had better leave it with the Safety Regulator rather than EPA.

They did not move to propose, however, regulations for meeting heavy-duty trucks and portable air-compressors in the 60-day period. Therefore, I did file a law suit.

It was not for another 6 months before the Agency did finally propose these regulations, 6 months after they were due, not 6 months after I sued. Now, at the same time that they proposed regulations for new trucks, medium and heavy-duty trucks, they finally promulgated the regulations for existing trucks.

Now, this act took place 12 months after those regulations were due. This was a nondiscretionary task the Agency was assigned to, twice the length of time the Congress asked them to undertake the task and complete it within a 12-month, 24-month period of time.

During that law suit, two things of interest to this committee came to light. During discovery I obtained copies of this correspondence which I think is of considerable interest to the committee.

One is that the Agency defended its delays, saying that: Essentially the reason why we are slow is because there was so much debate in the scientific community over the "Levels Document." In other words, what levels by the year 2000 should we try to seek and achieve?

Nowhere in the act does it say that the Administrator or the Office of Noise Abatement Control is supposed to take this particular document into account in setting a noise standard for a truck.

Now the ultimate level recommended in the "Levels Document" is essentially 55 decibels. They call it an L_{dn} measurement, which is a weighted means of penalizing night-time noise versus daytime noise and so on, and averaging it over a 24-hour day. You can think of it in simple terms as 55 decibels being the optimal goal.

Where trucks are regularly producing between 85 and 100 decibels and where technology, everyone knows, is not going to get them down near the 55 recommended goal, I still feel that there is considerable controversy as to whether or not this is a legitimate reason for the Agency's having put everything on a back burner waiting for that "55" number to be set and for it to have been published.

Indeed, I wonder whether this document does not perhaps—now this may be internal squabbling between the Office of Noise Abatement and other programs within the Environmental Agency to develop a single budget which they would then send over to the Office of Management and Budget, and then of course that may be cut back even further, but somewhere within the Government there are some missing bolts, and in May of last year Senator Tunney held hearings primarily on the aircraft noise, but at that time he pressed Dr. Meyer very very hard about "what is your money problem, do you not have enough staff?"—so on and so forth.

As you saw it today, basically there is a lot of equivocating—"we could do better if we had"—and there is a lot of sense to the argument that you have to set people back from what they might like, because everyone will say he wants an awful lot and maybe he will put carpets on the walls as well as on the floor of his office with this extra money, but somewhere there are some missing links which I in my law suit was unable to uncover. We may still get them uncovered in discovery.

The second interesting development that came to light as a result of this lawsuit is that after 6 months, when the Agency did finally propose regulations for air-compressors and trucks, they moved to dismiss for mootness. We did not object to that motion but we did suggest to the Court the case was not dead because there was provision under the act for attorneys' fees even against the Federal Government.

Now the Federal Government, we know, is sovereign, it is the king and it has sovereign immunity except when Congress waives that sovereign immunity. It has waived it on numerous occasions, permitting people to sue the Government, and on a few occasions permitting public interest parties and attorneys to collect attorneys' fees against the Government.

This is one of those acts. Primarily it is in the area of environmental law that the Congress has begun to dabble in the notion that the public may be able to watchdog the Agency as well and that they can sue to require the Administrator, or the Government, as the case may be, to perform nondiscretionary tasks that the Congress has commanded the particular Government bureaucrat to perform.

The Department of Justice in this particular case is basically stonewalling us. They filed pages of interrogatories on us. I have spent easily five times as much time trying to win the attorney's fees which were supposedly due for that one-fifth of my overall time that I spent earning them. In other words, you are not allowed to collect attorney's fees for the time spent collecting attorney's fees, only for the time you spent promoting the public welfare.

Obviously, the effect of this practice by the Justice Department is to frustrate another purpose, I think, a congressional objective which is embodied in section 12 of the Noise Control Act to encourage this kind of citizen advocacy, to keep the Government in line.

Indeed, we believe that we showed that this particular Agency perhaps had a deliberate purpose in not complying with the requirements of the law. We believe that the excuse that they offered, the prerequisite of coming out first with a "levels document," was spurious.

That, of course, is still a subject of some dispute and that perhaps might even be classified as a scientific dispute, and it may well be. Be that as it may, I think the Justice Department is frustrating the realization of this law perhaps even more at this point than the Agency, itself.

I think to the extent that EPA is frustrating it, it may well stem from a lack of money and not certainly too much.

One other area that I think the Agency has fallen on its face is in labeling. There is a labeling section in the Noise Control Act, section 8, which permits the Administrator to identify classes of products or individual products or whatever and require that the manufacturer give the prospective user or buyer notice of the noise level.

When you go to an automobile showroom you see a sticker on the side of the window telling you how much it costs, but you don't see any other information which tells you how good the vehicle is. It is very difficult for the consumer in this complex technological era to formulate an intelligent, educated opinion about the quality of the goods that he is buying.

I think the public would very much like to know before they buy chain saws, snowmobiles, you name it, items that produce noise, what noise level it does produce. Then they could go down the aisle and look at the next product. They might decide, all things being equal, to confer this profit benefit upon the manufacturer who is doing something in the public good, namely reducing the noise level of his particular product.

I believe that pressure ought to be put on the Agency to move in that area as well.

Finally, I think, going back to the money issue, that if authorization for continued funding does not come from the Congress in the very near future, give the Agency advance notice that the future is going to be secure, that they can continue to equip for this showdown that they are going to have with OSHA, to continue to offer guidance to the FAA which they have begun to do finally, and I am sure you will hear a good bit more about it tomorrow; to continue, for example, to promulgate the final new vehicle, newly manufactured medium- and heavy-duty truck regulations which they are prohibited from promulgating before April 4. The Noise Control Act says, "Thou shalt not promulgate sooner than 6 months following the proposal date." So they cannot promulgate new truck regulations until April 4. Hopefully thereafter they will come out with them shortly.

The Agency is developing this area of knowledge, refining the science of noise, and is at least perhaps as a result of pressure that has been brought on them by Senators and Congressmen and perhaps by my lawsuit in whatever small way, I think the Agency is begin-

ning to take very significant strides in terms of implementing this law, but it would be a colossal waste to the taxpayers if they did not have the right to continue to effectuate what they have begun.

One final point that was addressed earlier that I would like to address myself to is the enforcement problem. The motor carrier regulations are supposed to be enforced by the Department of Transportation pursuant to the language of section 18 of the Noise Control Act. The Department of Transportation has in its employ 119 field investigators whose job it is to enforce all of the Bureau of Motor Carriers safety standards.

Some 40 percent of the equipment on the highway being spot checked today is being found to be in imminently hazardous mechanical condition. I think you can believe me when I say these 119 people have their hands full, particularly when you consider the fact that their jurisdiction reaches roughly 4 million pieces of equipment that are in interstate commerce.

Now the Bureau of Motor Carrier Safety has promulgated their own in-cab 90-decibel noise exposure limit. The Director of the Bureau of Motor Carrier Safety, Dr. Robert Kaye, has indicated in speeches to various motor carrier conventions that the Agency does not intend to begin to enforce their own internal occupational noise exposure limit of 90 decibels inside cabs for some months or perhaps a year or two, that they will make their services available to companies to check the equipment, so on and so forth, advise them when it is in excess of their regulations, but they don't intend to enforce the regulations for some time to come.

Now if this is the mentality of the Agency to which the Congress under section 18 has said, "Go out and enforce the motor carrier regulations which have now been promulgated by EPA," I wonder to what extent they are going to be enforced at all.

Unless any of you have questions, I think that that will conclude my formal presentation.

Mr. ROONEY. I may have one or two questions.

First of all, I would like to commend you for your excellent presentation. I know of your great interest in PROD over the years and what you have done for the consumer, and I want to commend you for your interest.

What is your legislative recommendation for resolving the interagency problem with relation to noise, EPA versus OSHA?

Mr. FOX. It might be handled simply in terms of creating a statutory presumption that EPA's recommendation is correct in terms of judicial review and requiring OSHA basically to rebut that presumption with the preponderance of the evidence in their files.

Then of course they could go back and forth. Right now administrative discretion is conferred upon OSHA under the Occupational Safety and Health Act and it will be only toward that discretion that the court will address their attention.

Conceivably in the record of course when they look at whether substandard evidence justifies, so on and so forth, the court will find in the record the recommendations made by the Environmental Protection Agency, but essentially they confer every benefit of the doubt, and in fact in rulemaking—I said substantial evidence, I was incor-

rect—in rulemaking proceedings under the Administrative Procedures Act it is just an unreasonable capricious standard which the court will be applying. Even though EPA has made recommendations which may be reasonable, reasonable men may differ and all they have to do is point to the Society of Physicians, both National and International, that have adopted a standard which is extraordinarily archaic but that will be sufficient, in my experience in practicing administrative law and doing considerable litigation under the Administrative Procedures Act, will be sufficient to justify whatever regulations they may promulgate.

Something will have to be done to readjust that balance to give EPA a presumption. It is supposed to be in the driver's seat, at least as you read the Noise Control Act on its face.

When it comes down to the ultimate test, which is the judicial test, the Occupational Safety and Health Administration, the Department of Transportation and when they write regulations, the Federal Aviation Administration when they finally promulgate regulations, can do virtually as they please. Unless you readjust that balance, and I could sit down and try to come up with some language that might address that particular subject, but I would not hazard a guess here.

Mr. ROONEY. This country today is facing its greatest economic fight since the great Depression of the early 1930's. Do you think that the truck industry and the railroad industry could really continue to survive with all of the suggestions that you have made and EPA has made and also other agencies with respect to noise abatement?

Mr. FOX. Yes, without a doubt. The trucking and railroad industries both are regulated industries, are regulated economically by the Interstate Commerce Commission. As things currently stand unless there is an upheaval of the regulation, the regulatory authority of the Interstate Commerce Commission specifically, all the industry needs to do when its costs go up is to go to the Agency, the Commission, and ask for increased rates to offset their increased costs. Ultimately——

Mr. ROONEY. That does not always happen, though, Mr. Fox. You know the ICC turned down the rate request not too long ago that might have saved a railroad in this country. They were asking for 7 percent and it was turned down. The ICC said to the applicant, "Yes, we agree with you but we cannot give you the rate increase."

Mr. FOX. I am not familiar with the docket itself. I have not had the opportunity to go through it. But I do know, and let me be specific about trucking, that if you have been watching the Dow-Jones and the New York Stock Exchange, have been watching some of the major carriers listed on that exchange, none of them has suffered during the last 3-year economic recession. Indeed, the trucking industry, if you are hunting for some place to make an investment, is not a bad place to invest your money. They are doing extraordinarily well.

This is with the advent of the interstate highway system, which is the equivalent of their rails, which has been paid for disproportionately by the ordinary taxpayer.

Be that as it may, the truck industry has made some fairly large estimates about how much it would cost them. When I was dealing with the motor carrier reg's for existing equipment, we were told it was going to cost the industry X amount to retrofit to bring their equipment into compliance, their existing equipment into compliance

with this 90-decibel/50 feet standard. No one hazarded a guess, however, of what percent of all the equipment on the highways needed to have their mufflers replaced tomorrow, anyhow. In the event they have to go out and put a muffler on, it is not an additional expense, yet the industry plugs that into the total figure which they give you.

I think that their figures are somewhat suspect and certainly inflated. I think, too, as soon as the economies are built into the production of this equipment, and some of the equipment, the noise reduction equipment, is fairly new, they are figuring all the research and development costs of that equipment in the first place and they multiply that price over the X number of years to come, surely that price will have to drop, at least relatively speaking to other costs due to inflation, will have to drop as the profits absorb this additional research money.

That I doubt very seriously has been taken into consideration. You really have to take their estimates and tear them apart very, very carefully. It is going to cost them money, there is no doubt. I do, however, think that the trucking industry is a very healthy industry.

I don't think the impact would be as great on railroads, frankly, because there are fewer locomotives for the amount of cargo which they haul. In other words, the locomotive is a smaller overall cost of transporting X amount of cargo, whereas in trucking you have just hundreds and hundreds of thousands of units, all of which have to be brought into compliance. In a sense it is going to hit the trucking industry a lot harder than the railroads. In that sense it will hit the trucking industry a lot harder.

I have no doubt that the trucking industry will be able to absorb the costs. I do think ultimately they will be passed along to the consumer.

Mr. ROONEY. In the long run the consumer will pay for the entire cost.

Mr. FOX. The consumer will pay for the protection that will inure to him: people are not being exposed to the nerve-wracking health threats as they currently are.

Mr. ROONEY. Thank you very much for your testimony, Mr. Fox. I have no further questions.

Mr. FOX. Thank you, Mr. Chairman.

[Whereupon, at 5:40 p.m. the subcommittee adjourned, to reconvene at 2 p.m., Tuesday, March 25, 1975.]

NOISE CONTROL ACT EXTENSION

TUESDAY, MARCH 25, 1975

House of Representatives,
Subcommittee on Transportation and Commerce,
House Committee on Interstate and Foreign Commerce,
Washington, D.C.

The subcommittee met at 2 p.m., pursuant to notice, in room 2218, Rayburn House Office Building, Hon. Fred B. Rooney, chairman, presiding.

Mr. Rooney. The hearings will continue.

The first witnesses to appear today will be Mr. Rodney E. Eyster, General Counsel of the Department of Transportation; Mr. Frederick A. Meister, Associate Administrator for Policy Development and Review, Federal Aviation Administration; and Mr. William H. Close, Chief of the Environmental Research Division, Office of Noise Abatement. You may proceed.

STATEMENT OF RODNEY E. EYSTER, GENERAL COUNSEL, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY FREDERICK A. MEISTER, ACTING ASSOCIATE ADMINISTRATOR FOR POLICY DEVELOPMENT AND REVIEW, FEDERAL AVIATION ADMINISTRATION; AND WILLIAM H. CLOSE, ACTING DIRECTOR, OFFICE OF NOISE ABATEMENT

Mr. Eyster. Thank you, Mr. Chairman.

Thank you for your invitation to present the views of the Department of Transportation on extending the authorization of the 1972 Noise Control Act and on our noise abatement programs. With me today are Frederick A. Meister, Acting Associate Administrator for Policy Development and Review of the Federal Aviation Administration, and W. H. Close, Acting Director of the Department's Office of Noise Abatement.

Public concern with noise began to grow substantially in the early 1950's. Communities recognized that transportation vehicles—aircraft, trucks, "hot rods," motorcycles, and rapid transit trains—created a major share of unwanted noise. With the advent of jet transport aircraft in the late 1950's that concern became more vocal. Not surprisingly the Federal noise abatement effort arose in response to such complaints.

Because of subjective questions such as pitch, duration, and context, noise, though easy to measure technically, is a complex subject for Federal regulation. From a strictly medical viewpoint we know that human beings can suffer noise-induced hearing loss, but only after extensive exposure to high noise levels. EPA and OSHA have focused attention on the medical problems of hearing loss and occupational health.

There is, however, another dimension to the noise problem, that of annoyance and consequent psychological disturbance. This second aspect has been addressed epecially by DOT and, more recently, by EPA. It involves the unwanted and disruptive sounds over which citizens have little or no control, but which adversely affect everyday life.

In 1966 President Johnson assigned his Office of Science and Technology responsibility for developing and coordinating an interagency aircraft noise abatement and sonic boom program. In 1967 the DOT Act established the Department of Transportation and, although it did not include regulatory authority for noise, it did direct us to undertake transportation noise abatement research with particular attention to aircraft noise. The Department created an Office of Noise Abatement with responsibility for research, development, and coordination of DOT noise alleviation programs. In addition, in September 1967, the President's Office of Science and Technology transferred to the Department its aircraft noise coordinating responsibilities.

The Department's first regulatory authority to protect the public against unnecessary aircraft noise and sonic boom was provided with the 1968 addition of section 611 to the Federal Aviation Act of 1968. It authorized the FAA, in consultation with the Secretary, to prescribe standards and regulations which were "consistent with the highest degree of safety, economically reasonable, and technologically practicable."

Armed with that authority, the FAA has developed and issued regulations to abate aircraft noise by imposing maximum noise limits on new jet and transport aircraft designs, by imposing the same limits on all newly manufactured jet and transport aircraft of older design, by imposing maximum noise limits on small, propeller-driven aircraft, and by prohibiting sonic booms by civil aircraft—including the Concorde SST—over U.S. territory.

The FAA has also published for public comment a proposed regulation to require modification, or retrofitting, of all older jet aircraft to comply with the same noise restrictions established for newly manufactured aircraft. The proposed retrofit rule is of critical importance. Since 80 to 90 percent of the present U.S. fleet is "pre-FAR Part 36" aircraft, efforts to make new aircraft more quiet will be undermined and consistently quiet aircraft operation will be delayed without it. This program, which has been underway for a period of 8 to 10 years, has involved Government expenditures of $50 million.

Although the retrofit cost is nearly $1 billion, the benfit to be derived is even greater, yielding a benefit-to-cost ratio of 1 to 5. Also, it is important to recognize that the retrofit cost, three-quarters of which is for capital expenditures associated with the kit hardware, could be financed, for example, by a ticket surcharge of only 60 cents per passenger enplanement and 1 percent of cargo waybills.

The remaining cost is spread over the life of the aircraft. Consideration of the retrofit of older 707's, DC–8's, DC–9's, 727's and 737's would not have been possible without the research, technological development, demonstration, and analysis conducted by NASA, the FAA, and the Office of the Secretary of Transportation.

In addition to controlling noise through design modification our efforts have also focused on a wide variety of revised operational procedures to reduce aircraft noise. Additional regulations are in proc-

ess to lower the maximum aircraft noise limits now specified, to cover short-takeoff-and-landing, helicopter, and supersonic aircraft types, and to specify takeoff and landing procedures for noise abatement reduction.

I have attached to my statement, and submit for the record, a list of regulatory actions which the FAA has taken to deal with aircraft noise and prohibit sonic boom [see p. 61]. The effectiveness of these actions to date is readily apparent, especially in the performance of the newer wide-body aircraft—such as the DC–10 and the L–1011—which, as a direct result of the first regulation I mentioned, are significantly more quiet than older transport aircraft. Each step in our program is based on the essential criteria of technological availability, economic reasonableness, appropriateness to the type of equipment controlled, and of safety and public health and welfare.

The Noise Control Act authorizes the EPA to propose aircraft noise regulations to the FAA. Since December 6, 1974, when the EPA sent its first proposed regulation to the FAA, five proposals have been received. They cover propeller-driven aircraft, minimum altitude for turbojet aircraft in a terminal area, subsonic turbojet aircraft retrofit, fleet noise level requirements, and, most recently, civil supersonic aircraft noise requirements. Public hearings have been held on three of the proposals and are presently scheduled for the remaining two.

Supersonic aircraft pose special problems. As you know, Mr. Chairman, British Airways and Air France have requested that the FAA amend its operations specifications to permit limited Concorde operations at JFK Airport, New York, and Dulles International Airport. The FAA has published a draft environmental impact statement which analyzes the potential effects of the proposed flights, and has scheduled public hearings this April in both Washington and New York to receive comments for evaluation in arriving at a final decision on the applications.

In addition to considering proposed Concorde operations, the FAA expects to publish this week as a "Notice of Proposed Rule Making" the EPA proposal on civil SST noise type certifications standards, in accordance with the provisions of the Noise Control Act of 1972. Public hearings are scheduled for May. While FAA rules already prohibit sonic boom over land, supersonic aircraft may present significant airport noise problems. The final decisions involved will have significant implications for the public, international relations, and the future of supersonic transportation.

As a first step toward providing the technology needed for surface transportation noise abatement, the Department began development and demonstration programs to encourage quieter transportation vehicles and systems. Initial efforts were made to quantify community noise levels and identify the portion caused by transportation-related sources. In 1969 the Department sponsored a symposium on the subject and began a major study of transportation noise and alternative abatement strategies. Our conclusions have enabled us to focus our efforts on the problems of greatest magnitude.

Highway traffic noise was identified as the most pervasive community ambient noise problem. Despite the absence of specific regulatory authority, we undertook development and demonstration programs to encourage quieter highway vehicles and systems. Our quiet truck demonstration program, begun in 1970, was one.

To combat truck noise we first undertook extensive tests of tire noise with the assistance of the National Bureau of Standards, NASA and the American Trucking Association. We also worked with manufacturers to design and construct nine heavy-duty trucks which are substantially quieter than contemporary trucks and most automobiles on our highways.

In addition, we identified and evaluated modifications which can be made to insure quieter operation of older trucks. On the basis of these efforts we developed a noise reduction handbook as a practical guide for individual truck operators showing the type of equipment which should be obtained, where it can be obtained, and how it can best be installed to reduce noise levels. Finally, we completed extensive training of State law enforcement officials to demonstrate the need for and methods of enforcement of highway noise controls and we suggested model legislation for State use.

Under the Noise Control Act of 1972 EPA is required to issue noise emission regulations for motor carriers engaged in interstate commerce. Once EPA regulations have been promulgated, the Secretary of Transportation, in consultation with EPA, is required to issue and enforce regulations to insure compliance. EPA issued its motor carrier noise emission standards in October 1974 to become effective October 15, 1975. The Department of Transportation has issued a "Notice of Proposed Rule Making" with our proposals to insure compliance with the EPA standards.

Our surface transportation noise programs provided a foundation for EPA's proposals for interstate motor carrier noise standards and for new medium- and heavy-duty truck noise emission standards. Because some of the technology for those noise problems has added cost and weight to these trucks, we undertook to find and have found engineering changes which not only abate noise but which also improve fuel economy.

Finally, under the Federal Aid Highway Act of 1970 we have established noise design standards for new and improved highway construction. As a result of the Federal Aid Highway Act of 1973 we are revising these standards to include noise control measures for older highways.

In contrast to aircraft and highway noise railroad noise had received relatively less attention prior to passage of the Noise Control Act in 1973. In 1971 we began a program to measure railroad noise. We are expanding our study of locomotive and yard noise control in cooperation with the Association of American Railroads and the Burlington Northern Railroad. Although EPA has not yet issued a final noise regulation as required by the act, at such time as the rule is issued we will, in turn, formulate, issue and enforce regulations to insure compliance.

In the Clean Air Act Amendments of 1970, specifically title IV, Congress required the EPA to conduct a study of noise, hold public hearings and report its results and recommendations. That report, submitted January 26, 1972, and the House hearings held the previous June, provided the basis for legislation which became the Noise Control Act of 1972. It established a national policy to promote an environment for all Americans free from detrimental noise which jeopardizes health and welfare. The act has provided both emphasis and additional

regulatory authority needed to convert research findings by DOT and others into actual community noise reduction.

The shared responsibility the act assigns to DOT, EPA, and other Federal agencies recognizes the need to apply the particular expertise of all agencies in combating noise. It implies a pooling of resources. In the transportation field, for example, it recognizes both our transportation expertise and EPA's larger concern for all forms of noise pollution and bioacoustics. It also recognizes that, mindful as we are of environmental goals, they are not the only objectives of sound national policy. Safety, energy conservation, transportation needs and the national economy, as well as the practical limitations imposed by available technology and economic reasonableness, must also be weighed in developing a noise control program.

Striking a balance by tempering competing considerations is a challenging process. It necessarily exposes differences as agencies criticize and check each other's work and conclusions as to highly complex and sometimes subjective issues. Resolution of those differences requires cooperation and dedication to the goal of a balanced and reasonable national transportation noise control program.

Mr. Chairman, that concludes my statement. If you or members of the subcommittee have any questions, we will be pleased to respond.

[The document referred to follows:]

FAA NOISE CONTROL ACTIONS

Date	Item	
Regulatory action—Issued:		
Nov. 24, 1969	Rule	Noise standards: Aircraft type certification (FAR pt. 36).
Aug. 4, 1970	ANPRM	Civil supersonic aircraft noise type certification standards.
Sept. 30, 1971	NPRM	Noise type certification and acoustical change approvals.
Mar. 23, 1973	Rule	Civil aircraft sonic boom (FAR pt. 91).
Oct. 19, 1973	do	Newly produced airplanes of old type design.
Dec. 14, 1973	ANPRM	Noise standards: Short haul aircraft.
Mar. 20, 1974	ANPRM	2-segment approach for noise abatement.
Mar. 22, 1974	NPRM	Civil aircraft fleet noise requirements.
Dec. 12, 1974	Rule	Noise type certification and acoustical change approvals.
Dec. 31, 1974	do	Noise standards for propeller-driven small airplanes.
Do	NPRM	Noise standards for propeller-driven small airplanes (EPA proposal).
Do	NPRM	Noise abatement minimum altitudes for turbojet powered airplanes in terminal areas (EPA proposal).
Feb. 21, 1975	NPRM	Civil subsonic turbojet engine-powered airplanes: No retrofit requirements (EPA proposal).
Do	NPRM	Fleet noise level requirements (EPA proposal).
Regulatory action—in process	NPRM	Modification of noise certification requirements.
	NPRM	Propeller-driven STOL aircraft noise type certification standards
	NPRM	Aircraft noise requirements: Civil supersonic airplanes (EPA proposal).
Orders—Issued:		
June 30, 1970	6900.4	FAA plans for meeting mandate of National Environmental Policy Act of 1969 (Public Law 91-190).
Feb. 28, 1972	7110.22A	Arrival and departure handling of high performance aircraft.
June 19, 1973	1050.1A	Procedures for considering environmental impacts of proposed FAA actions (supersedes order 1050.1 and notices 1050.1 and 1050.2).
Aug. 10, 1973	7040.2	Aircraft sound description system.
Advisory circulars—Issued:		
Feb. 28, 1972	90-59	Arrival and departure handling of high performance aircraft.
May 31, 1973	36-1	Airplane noise levels.
Jan. 18, 1974	91-39	Recommended noise abatement takeoff and department procedure for civil turbojet powered airplanes.
July 9, 1974	91-36A	VFR flight near noise sensitive areas.
Hearings held (EPA proposals):		
Mar. 3, 1975	NPRM	Noise standards for propeller-driven small airplanes.
Mar. 5, 1975	NPRM	Noise abatement minimum altitudes for turbojet airplanes in terminal areas.
Hearings scheduled (EPA proposals):		
Mar. 18-19, 1975	NPRM	Civil subsonic turbojet engine-powered airplanes: Noise retorfit requirements.
Apr. 17-18, 1975	NPRM	Fleet noise level requirements.
May 20-21, 1974		Aircraft noise requirements: Civil supersonic airplanes (being published).

52-021 O - 75 - 5

Mr. ROONEY. Thank you very much, Mr. Eyster, for a very comprehensive statement.

I believe that your Department has permitted FAA to allow the SST to land in the United States at Dulles and Kennedy Airports, is that correct?

Mr. EYSTER. Mr. Chairman, I understand there may have been some confusion in that respect.

As I mentioned in my testimony, there is a proposal pending before the FAA. Earlier this month, the FAA issued a draft environmental impact statement.

It has invited public comment as is required. It has scheduled hearings in New York City and Washington in April.

Mr. ROONEY. That is on the 15th and 15th of April?

Mr. EYSTER. I don't recall the exact dates, but that is approximately correct. The FAA will consider all of the information which it receives at that public hearing and then arrive at a final decision as to permitting the Concorde to land.

Mr. ROONEY. How can the public appear before a meeting not knowing what adverse effects the landings or takeoffs of an SST are going to have on their properties?

Is it possible for you to perhaps, prior to the hearings, have one of these SST's take off or land in that particular area?

Mr. EYSTER. It is unlikely that would occur prior to the April hearings I have referred to.

There have been a number of landings, at which the FAA has collected data. They are the landings in New York and at Logan, airports on both coasts. Those data, together with the British manufacturer's, furnish the basis for the draft environmental impact statement, which I think, on careful reading, provides some basis for what the adjacent landowners may speak on SST landings.

Mr. ROONEY. It seems to me, I could read all the environmental impact statements available and not know what effect it is really going to have until I hear and see the effects of takeoffs and landings. I don't think I could logically testify before your hearing with any kind of knowledge as to what effect. I would after it occurred.

Mr. EYSTER. Mr. Chairman, I would not underestimate your ability to digest information in this document. It is quite useful.

In addition to that, there has been a great deal of interest on the part of the public at the time that some of these test gathering landings were made at Logan and New York.

Mr. ROONEY. What was the reaction of the citizenry at Logan and New York?

Mr. EYSTER. There is. of course, quite a lot of public interest on the part of persons near those airports.

I think, one observation that could be made is that, the landing at Logan was made without anybody realizing it had been made.

Mr. ROONEY. Because you are coming in over water?

Mr. EYSTER. But there is also an impacted land area at Logan. I think there was much more interest in advance of the JFK landing, and they received more attention.

Mr. ROONEY. Have any of the landings occurred in Washington?

Mr. EYSTER. Yes, at Dulles, one landing and one takeoff at Dulles.

Mr. ROONEY. What has been the reaction there?

Mr. EYSTER. There has been very little adverse reaction in the Dulles area. I think the principal concern is from the inhabitants surrounding JFK.

Mr. ROONEY. How many flights per day do British Airways and Air France wish to make in these airports?

Mr. EYSTER. They have asked for authority to make six, four each day at JFK and two at Dulles.

Mr. ROONEY. At what times.

Mr. EYSTER. The times are not specified.

Mr. MEISTER. JFK would be in the latter part of the evening because that is the best time for the intercontinental time changes as you go from Europe to the United States, but they have not asked for a specific time yet.

Mr. ROONEY. On page 5 of your testimony, you state "The final decision concerning the SST will have significant implications for the public, international relations and the future supersonic transportation."

Can you explain what parts of section VII of the Noise Control Act require you to take into account the international relations as a factor in determining whether the SST should land at Dulles Airport?

Mr. EYSTER. There is nothing in section VII, of course. What I said was that it had some implications for international relations. That is not to say that the FAA will make the decision solely on the basis of international relations. FAA has responsibility for the development of air commerce, including international air commerce, and it could not be oblivious of the implications on other actions who are engaged in international air commerce.

Mr. ROONEY. Under the act, how are the responsibiilties for regulating aircraft noise divided among EPA, DOT, and FAA?

Mr. EYSTER. Section VII of the act provides two basic relationships between FAA and EPA. The section VII(b) procedure requires FAA, prior to initiating action on its part, to go to EPA and consult with them. Subsection (c) of section VII authorizes the EPA to make proposals to the FAA. The FAA is then required to publish those proposals of EPA in the Federal Register within 30 days of receipt.

FAA is required, further, to hold hearings within 60 days after publication. The next step is that FAA announces its decision with respect to the EPA proposals. The FAA may decide to adopt it without change, it may decide to adopt it with change, or it may decide not to adopt any part of the proposals.

EPA is then authorized under the act to make comment on FAA's decision.

Mr. ROONEY. Yesterday we had OSHA testify here along with EPA. There seemed to be quite a bit of difference as far as their opinion is concerned as to the noise problems facing this country. How about FAA versus EPA? Do you see any differences of opinion that might adversely affect any decisions you might make?

Mr. EYSTER. As indicated in my statement, noise, indeed, is a very complex subject.

When one gets down to a matter of hard data, there usually is little room for disagreement. One can, perhaps, have different views about methodology of test data, but when it gets down to hard facts, I think, we find ourselves in substantial agreement not only with EPA but with experts in other agencies and with experts in the private sector.

One of the complications of noise is that it is very subjective. One way to illustrate how subjective noise can be in some of its aspects is that, contrary to popular belief, putting up a screen of shrubbery trees and so forth along the highway does not have any substantial effect on noise reduction.

It does, however, have a substantial effect on noise complaints.

Mr. ROONEY. I did not hear that.

Mr. EYSTER. The shrubbery screen does not suppress noise, but it does suppress complaints. The noise is still there, but it is less bothersome to the adjacent landowner if there is a vegetational screening.

Mr. MEISTER. One of the apparent problems that comes forth between EPA and FAA, in terms of aircraft regulations, is the basis on which we are required to act first. They are required, under the Noise Control Act of 1972, to submit to us regulations, based on their assessment, necessary to protect public health and welfare. The FAA, on the other hand, must take public health and welfare into account.

Additionally, we are required by the same Noise Control Act amendments to consider whether any proposed regulation is economically reasonable, is technically practical and is applicable to the type of aircraft in question, and that, oftentimes, is a safety issue.

As Mr. Eyster referred to in his testimony, it, therefore, becomes a very delicate tradeoff between pure health and welfare considerations versus the other considerations put forth.

Mr. ROONEY. Mr. Schwartz.

Mr. SCHWARTZ. I have a couple of questions.

I think it would be helpful if you could summarize for the committee what the issue was in the *Lockheed Air Terminal* case, how it bears on noise control, and how that case was resolved?

Mr. EYSTER. You are referring to the *Burbank* case?

Mr. SCHWARTZ. Yes.

Mr. EYSTER. In that case, the municipality of Burbank imposed a time curfew on operations at the airport. Uniquely, perhaps, in the United States the airport was not owned by State or State agency, it was owned by Lockheed Aircraft Corp.

The issue in the case dealt with the city of Burbank's authority in its governmental capacity rather than the authority that a government agency, which is also an airport owner, or operator, might have. The distinct question was, whether the Federal Government, particularly, the FAA, through its regulations, had preempted the authority of the city of Burbank to impose such a curfew. We urged that it was not preempted, and the court so held.

Mr. SCHWARTZ. You urged that the local regulation was not preempted?

Mr. EYSTER. That local regulation was not preempted by Federal action, yes.

Mr. SCHWARTZ. It is my understanding that the court held that the local regulation was invalid. Am I correct?

Mr. EYSTER. There is another element that I glossed over. There were two preemption questions. I was addressing only the second half of it. We urged, and the courts agreed, that FAA regulations preempt as to control of airspace.

There was another issue as to whether we were preempting as to noise control. The curfew was clearly a noise abatement measure. It was our position that we are not preemptive as to noise control. The

court held, however, that the Federal preemptive airspace control regulations prohibited the imposition of the curfew.

Mr. SCHWARTZ. So that, in effect, Burbank did not have the authority to prohibit that one flight after the curfew hour that they had set, is that correct?

Mr. EYSTER. That is correct.

Mr. SCHWARTZ. Doesn't the Federal Government in its operation at National Airport impose a curfew?

Mr. EYSTER. Yes, it does.

Mr. MEISTER. No, it does not. There is a voluntary curfew, if you want to use that phrase, by the airlines, but that is not any regulatory proposal. That is not in any sense a mandatory proposal. It is voluntary on the part of the airlines.

Mr. SCHWARTZ. Would it be feasible for the Federal Government in its air traffic scheduling capacity to accommodate the demands or requests of State and local governments for curfews to prevent excessive nighttime noise from aircraft, at least to some extent?

Mr. EYSTER. To take the last part first, at least to some extent, certainly, what FAA does in the way of air space control can have a noise impact. It could be on the increase side or decrease side. As to whether or not it would be possible to satisfy local wishes, you have to take those one at a time, examine what the community objection is, what the particular airport problem is, what the function of the airport is in air commerce.

Mr. SCHWARTZ. Does the agency have a mechanism so that State and local governments can petition and request that that be done and have a hearing on it?

Mr. EYSTER. It does, indeed.

The FAA has made it widely known that it is receptive to proposals and requests from State and local governments. It does, in fact, have noise control program, which try to minimize community impacts at all the major airports.

Mr. SCHWARTZ. Could you provide for the record a list of those cities in which there has been accommodation made in the scheduling of aircraft flights to meet the wishes of local governments?

Mr. MEISTER. It is important to clarify one point; that, FAA, in and of itself, does not have the power to regulate the schedule of the airlines. That is outside of our purvey, as well as the CAB's. That is a decision between the airport proprietor and the airline involved.

We do try to use preferential runway treatment. We do try to work with the airport sponsor, as well as the airlines in case of curfew modifications.

We specifically do not have the power in terms of scheduling frequency of flight and time, aside from the national curfew.

Mr. EYSTER. If I understood your question, it was not limited to the time of operation. In general the response is to State and local requests. My answer partly was predicated on the knowledge of what FAA had done, particularly with respect to the study of flight patterns.

Mr. SCHWARTZ. If there are any instances in which there has been an effort to meet the desires of State and local governments for scheduling changes, curfew changes, and so on, we would like that for the record.

Mr. MEISTER. Fine.

[The information requested was not available to the committee at the time of printing.]

Mr. ROONEY. Mr. Kovacs.

Mr. KOVACS. Going back to the Concorde for a second, what is the operational flight range of the Concorde?

Mr. EYSTER. It is a function of the loaded weight at takeoff.

Mr. MEISTER. Approximately 3,300 to 3,800 nautical miles with a passenger capability of 100 to 125 people.

Mr. KOVACS. What is the distance from Dulles Airport to Paris or Paris to Dulles?

Mr. MEISTER. I don't have that figure.

Mr. KOVACS. I have it as 3,838 miles.

Mr. MEISTER. It is in that range.

Mr. KOVACS. If the operational flight range is 3,800 miles and the distance from Paris to Dulles is 3,838 miles, how do your safety factors fit into this, and what happens if there is congestion at the airport and the plane can't land?

Mr. ROONEY. Because of low fuel?

Mr. KOVACS. Low fuel.

Mr. MEISTER. If it were for some bad weather purposes, as happens to aircraft on a continuous basis, when one runs on low fuel, it is given priority treatment. We do not foresee any safety problem in terms of the Concorde coming into Dulles or J. F. K. without adequate margins of fuel.

Mr. KOVACS. Even though it would just be making it?

Mr. MEISTER. There is always ample spare fuel carried onboard for that purpose. The 3,800 miles is based on normal operating envelopes and does not take into account the reserve fuel that is always there for purposes of safety.

Mr. KOVACS. What happens if there are high winds and it has to fly beyond Dulles, let us say, further north or further south?

Mr. MEISTER. We would have to designate alternative airports for purposes of bringing in the Concorde if there were safety questions involved at Dulles or J. F. K.

Mr. KOVACS. Would you have to know this considerably well before arrival at Dulles Airport simply because of the minimum amount of fuel, somewhere over the Atlantic?

Mr. MEISTER. There is no more a case of limited fuel with the Concorde than any other transatlantic flight. It is the same problem and same issue involved.

The Concorde is not unique in that case whatsoever.

Mr. KOVACS. I just have one other question.

In your draft environmental impact statement on page 41, you stated: "Vibrations measured on wall, ceiling, windows of a building, under or the departure and approach flightpaths are as much as five times greater for the Concorde as for supersonic long-range aircraft." Is that correct?

Mr. EYSTER. That is the best date we have at the moment. As I mentioned earlier, there probably will be additional flights before a final decision is made on the pending request for operational authority.

Mr. KOVACS. With the sentence I just quoted, how do you balance all of your obligations, and you have to consider cost and you have to

consider technology and you have to consider public welfare—how do you balance the advantages to these 120 or 125 people that are flying in this plane, six times a day, compared to the residents who are living in the flightpath of that plane?

Mr. EYSTER. I don't think that is exactly the balancing consideration that will be undertaken by the FAA.

We have application by two foreign flight carriers. We are a party, as are the two governments involved, to the Chicago Convention of 1944, that established the basic international rules. The FAA has to observe those in this process of certification of any foreign-manufactured aircraft and in its handling of any application for operational authority on the part of a foreign air carrier.

Mr. ROONEY. Mr. Eyster, would there be a danger vesting EPA with noise-control responsibility for aircraft when safety responsibility is still vested in the FAA?

Mr. EYSTER. If you mean sole responsibility or enforcement responsibility, yes. We think there would be.

Mr. KOVACS. What would you plan to do to correct that?

Mr. MEISTER. At the present time, of course, EPA is only in a position of making recomemndations. They have no powers to, one, issue a regulation, or, second, to enforce that regulation. The FAA has the ultimate responsibility for any aircraft noise regulations. So there is no problem in that area.

Mr. ROONEY. Have any of the EPA noise-control proposals been criticized as unsafe, to your knowledge?

Mr. MEISTER. I think some of the operational procedures, in particular, of different things we could do on approach and takeoff are the most difficult ones to evaluate from the standpoint of safety and, again, there, I think, we have a lot of our own evaluations yet to do, as well as EPA's input.

Mr. ROONEY. Don't you think, Mr. Meister, as long as there are aircraft flying over cities, day in and day out, morning, noon, and night, you are always going to have that noise problem? You are not going to do away with it?

Mr. MEISTER. That is correct. We can certainly substantially mitigate the problems relating to aircraft noise. I think it is our responsibility and, certainly, the Congress has assigned us that responsibility under the Noise Control Act of 1972. You will never have an aircraft noise-free environment.

Mr. ROONEY. Should the major strategy of the act be noise reduction or reduction of noise effect, or both?

Mr. EYSTER. We think both, Mr. Chairman.

A great deal can be done with some sources. Other sources of noise are quite troublesome. The airplane is one.

Other noise sources can be reduced below their present level.

The quiet truck program I mentioned in my prepared statement is living proof that a great deal can be done to minimize that particular noise source. In some areas, particularly in congested urban areas, those that are heavily dependent on truck service or rail service or a combination, it may be that when all the noise-source reduction has been accomplished, there may still be an ambient noise level that is unacceptable, and there will have to be further attack.

Mr. ROONEY. Thank you very much, gentlemen, for your appearance here today and for your excellent presentation and your answers to my questions.

Mr. EYSTER. Thank you, Mr. Chairman.

Mr. ROONEY. The next witness will be Mr. Lloyd Hinton, legislative and technical consultant, National Organization To Insure a Sound-Controlled Environment.

I might add, Mr. Hinton, your organization certainly has a very large responsibility. I wish you well in your endeavors.

STATEMENT OF LLOYD HINTON, LEGISLATIVE AND TECHNICAL CONSULTANT, NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT

Mr. HINTON. Thank you so much, Mr. Chairman. I am pleased to be here and have the opportunity to testify. The NOISE organization is the only organization in the country that is specifically founded on the issue of aircraft noise.

I am Lloyd Hinton. I am on the staff of the National Organization To Insure a Sound-Controlled Environment (NOISE), which was founded in 1969 by local government elected officials of communities adjacent to major civil airports.

Mr. ROONEY. Do you have a prepared statement, Mr. Hinton?

Mr. HINTON. I have one here. It is not typed. I handwrote it. My logistics are inadequate. I will get it to you in typed form (see p. 72). There will be quite a few attachments which I would like to leave with you also.

Mr. ROONEY. It would have been most helpful if the committee had had one in advance.

Mr. HINTON. I just haven't had time to make it available.

To continue, Mr. Chairman, local elected officials from communities around major airports in the country had become impatient with the lack of progress on the part of the FAA in abating aircraft noise.

In its report to Congress, December 1971, until title IV of the Clean Air Act, EPA estimated some 16 million people are daily exposed to excessive levels of aircraft noise. In making its estimate, EPA employed 30 NEF—noise exposure forecast—as its criteria. With the publication of the "Levels Document"—information on the levels of environmental noise requisite to protect the public health and welfare with an adequate margin of safety—EPA suggests a goal of 55 L_{dn} as a community acceptability standard. Thus, the number of people exposed to unacceptable levels of noise from the standpoint of public health and welfare based upon 55 L_{dn} would be equivalent to 25 NEF. Every 5 dB change in NEF or L_{dn} means a doubling or halving of area. Thus, some 32 million people around the Nation's civil airports are daily exposed to aircraft noise that EPA considers excessive.

NOISE's municipal membership represents an estimated 5 million of these airport community residents around airports in this country.

While NOISE has benefited from the support of other public interest environmental and consumer protection organizations, including Professional Drivers Council, Environmental Defense Fund, Sierra Club, Friends of Earth, National Resource Defense Council, Environmental Action and others, we are the only one dealing primarily in environmental noise.

NOISE's goal is the elimination of all noise which is unnecessary to the safe and efficient operation of the air transport system. Our purpose is the application of maximum noise-control technology consistent with safety and cost economy.

We are not an antiaviation group as our industry adversaries often like to picture us. We appreciate the committee's immediate purpose is to consider funding authorization for the Environmental Protection Agency to continue its work in environmental noise control.

During congressional considerations of the Noise Control Act of 1971–72, you may recall, Mr. Chairman, that the House passed H.R. 11021, the administration's bill, on February 29, 1972, with virtually no dissent. Fortunately, for people living in the vicinity of our Nation's airports, S. 3342, introduced by Senators Muskie and Tunney in the Senate, provided for strong EPA control of noise from aircraft. The role was seriously diluted in subsequent compromise in conference with the House.

Senator Mansfield termed the passage of the bill only 45 minutes before final adjournment of the 92d Congress as a legislative miracle." Thus, while the act, really requires no more than an investigation and report by EPA on adequacy of FAA actions to control noise from aircraft, it provides for needed public disclosure of the inadequacy of FAA actions.

As you know, the EPA report to Congress dated July 27, 1973, characterized FAA's actions as "inadequate." EPA is presently submitting proposals for needed measures to FAA to correct these inadequacies. It would be foolish of us to believe that FAA has any intention of even considering the EPA proposals on their merits, much less implementing them.

For the record I am attaching copies of NOISE's recent comments to the FAA docket including testimony in hearings this month on EPA's proposals submitted to FAA.

While valuable, particularly as Congress and the public might thereby become better informed, the provisions of section 7 of (NCA) amount to little more than public disclosure requirements to which FAA is acceding, we believe, in a perfunctory manner.

I would like to correct Mr. Strelow's testimony yesterday, when he characterized EPA's role as being directed to review aircraft and airport noise control practices. Specifically, under section 7 it says, "EPA will investigate and report to Congress on the adequacy of FAA noise control actions."

Actually, to this date, FAA has not promulgated one single rule providing "present" relief from aircraft noise as mandated by section 611 of the Federal Aviation Act of 1958 as amended in 1968, by the Aircraft Noise Abatement Certification Act—Public Law 90–411.

In response to a question of a previous witness, Mr. Chairman, the committee was advised that the 1968 Act gave the FAA its first authority to deal with aircraft noise. I would like to read a short paragraph from the Federal Aviation Act of 1958, section 307(c):

> The Administrator is further authorized and directed to prescribe air traffic rules and regulations governing the flight of aircraft for the navigation, protection and identification of aircraft, for the protection of persons and property on the ground, and for the efficient utilization of the navigable airspace, including rules as to safe altitudes of flight and rules for the prevention of collision between aircraft, between land aircraft and water vehicles, and between aircraft and airborne objects.

In 1967, the U.S. Attorney General rendered a formal written opinion to the FAA, saying in his opinion, that this broad language in section 307(c), gave the Administrator of the FAA adequate authority to do what he deemed necessary to control aircraft noise. This authority was not utilized nor was it desired by the FAA. The FAA has used every conceivable device to procrastinate, to delay, to avoid taking even the most rudimentary actions to control noise.

FAA continues to rely on "voluntary compliance" on the part of each aircraft operator and indeed, each pilot. This situation was reported upon in the December 1974 report of the Subcommittee on Aeronautics and Space Technology, which, while not having oversight over FAA, felt compelled to look into and report upon the situation.

If I may direct the committee's attention to the list of regulatory actions attached to the testimony of the witness of the Department of Transportation, which I had an opportunity to look at, I would like to point out, Mr. Chairman, that not one of these so-called noise control actions provides any present relief to people living around airports.

I would welcome your questions on this subject. The lack of FAA regulations per se for noise and even for safety is a classic example of bureaucratic obeisance to the regulated industry by a Government agency.

As a matter of high policy, NOISE cannot agree that the same people who deal on a day-to-day basis with regulated industries are the ones in Government who should establish regulatory standards. The contrary is true, as Congress discovered with the Atomic Energy Commission. Like Arthur Fox in his testimony yesterday, NOISE has observed evidence of a clear adversary role between EPA and FAA since passage of the act.

From the beginning, when EPA requested participation in its task force to consider the adequacy of FAA actions to control noise, DOT/FAA declined in writing, saying to the Administrator of EPA they wanted to preserve their right to disagree with the report and participation may dilute that right.

My information is not based on the high policy level. It is based on close knowledge of the working level in each agency.

To illustrate the perfidity with which the Congress and public has been treated by FAA, let me read from the testimony of FAA spokesmen before this very committee on July 17, 1962. I have in my files a copy of testimony by Mr. Charles H. Williams, staff assistant to the Director, Air Traffic Service, Federal Aviation Administration, presented before the Subcommittee on Transportation and Aeronautics and Special Subcommittee for Regulatory Agencies, House Committee on Interstate and Foreign Commerce.

I will make the whole testimony available,[1] but the following paragraph is illustrative of subterfuge employed by FAA in avoiding regulation of aircraft noise.

> Pursuant to its authority to issue air traffic rules, the Agency has promulgated a national rule setting forth traffic patterns, approach and takeoff procedures and provisions requiring that preferential runway procedures developed for specific airports for noise abatement purposes be used by all pilots unless safety considerations are overriding.

[1] May be found in committee's files.

Mr. Chairman, there was no such national rule promulgated then or since for the purposes described.

In June 1971, the Boeing Co. published a report entitled "Effects of Aircraft Operation of Community Noise." Let me read two brief conclusions and the final recommendation of the report.

1. Significant reductions in community noise can be attained through early adoption of readily available regulatory and procedural operations changes in the vicinity of airports. Such changes can be made at little cost, would require no particular increase to pilot skill or pilot workload, and are not considered to have any effect on safety.

2. Further noise reduction benefits are available through certain additional operating procedures requiring development of techniques and equipment modifications to avoid increasing pilot workload.

The final recommendation of the report:

It is further recommended that applicable air regulations, such as FAR Part 36, be modified such that encouragement and incentives is given to noise abatement through operating procedures. This should be an inherent part of the overall effort to reduce community annoyance.

I will make this part of the record, if you would like.

Mr. ROONEY. Without objection [see p. 77].

Mr. HINTON. What has been the FAA response to the Boeing Co. report and numerous other recommendations of NASA along the same line? Nothing. As I said before, Mr. Chairman, the FAA has not adopted one single regulatory requirement for the operation of aircraft in the vicinity of airports except at Washington National Airport, which, as Mr. Meister has said, is a voluntary agreement on the part of the airlines who use the airport, not to schedule jets at nighttime—10 p.m. to 7 a.m., That their pilots will use certain flight procedures such as large thrust cutback after takeoff, avoiding flying over noise sensitive areas, particularly Georgetown on takeoffs on the north, and so forth.

Actually, this agreement is hardly voluntary because if the airlines don't agree to it, they can't use the facilities of the airport. This action is taken under then FAA's proprietary authority, rather than its Federal statutory authority. I think this distinction should be made. In practice, what has occurred is that while preempting States and localities from taking action to protect their citizens from excessive aircraft noise, the FAA permits the airlines, business jet operators and everyone else to operate any way they please with respect to their noise impact.

It is clear that the FAA will not and cannot make the changes needed for the control of noise. We believe the same situation exists for safety purposes as well. FAA resistance to change per se safety reasons became clear during the recent hearings by the National Transportation Safety Board on the issue of the TWA 514 crash last December.

NOISE endorses the position taken yesterday in these hearings by PROD, that regardless of its effectiveness, as official Government spokesmen for the protection of the public health and welfare the EPA should be strengthened. We believe EPA inherently is the agency of government designed and committed to the protection of public health and welfare. In contrast, the FAA perceives its role as the promotion of air commerce regardless of public health and welfare. Thus, there is an inherent conflict of interest which must be resolved by Congress and other agencies.

For example, any controls on aircraft noise are perceived by the FAA as an unnecesary constraint on its primary role.

I was pleased yesterday by your questions, Mr. Chairman, when you asked whether there should be some changes made in the regulatory scheme to which the Congress could address itself.

I would like to add that in the majority opinion in the *Burbank* case, referred to earlier, Mr. Justice Douglas stated in his concluding paragraph that, "if changes are needed, Congress must take them; that the Court was not at liberty to change the institutional structure established by Congress."

NOISE has a legislative program which we believe this committee may find of interest and perhaps report favorably upon. This involves the following:

EPA establishing—as essentially it already has—standards based solely on criteria for public health and welfare.

We don't believe that Congress, the committee or the Congress, would approve giving EPA responsibility for determining air transportation system safety. That would be like transferring or doubling the bureaucracy in one agency and transferring it to another. We certainly would not endorse that approach.

However, we believe there is a built-in system that we have already in existence, existing agency, with NASA being assigned the responsibility for developing, demonstrating, and certificating air transport system safety, efficiency, all-weather flight capability, noise and exhaust emissions abatement controls.

NASA has the requisite engineering competence, requisite institutional incentive to best apply all of our technology to obtain the best air transport system. We have observed over the years NASA trying its best to work at little pieces of the system. They have been more interested in aircraft noise control and there are many, many reports which I can make available to the committee which describe NASA's efforts. None of these efforts has resulted in any regulatory action by the FAA.

[Testimony resumes on p. 99.]

[Mr. Hinton's prepared statement and attachments follow:]

STATEMENT OF LLOYD HINTON IN BEHALF OF THE NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT

Mr. Chairman, my name is Lloyd Hinton. I represent and serve as staff to the National Organization to Insure a Sound-Controlled Environment.

NOISE was established in 1969 by local government elected officials of communities adjacent to major civil airports who had become impatient with the lack of progress on the part of the FAA in abating aircraft noise.

In its report to Congress and the President dated December 1971, the Environmental Protection Agency estimated that approximately 16 million people are daily exposed to excessive levels of aircraft noise. In making this estimate the EPA employed 30 NEF (noise exposure forecast) as the standard for residential acceptability.

With publication of the document entitled "Information on the Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety," EPA established a goal of 55 LDN as residential community acceptability standard. In terms of cumulative noise exposure, day and night time ratio and other objective annoyance factors, 55 LDN is equivalent to 25 NEF. With a 5 dB change as doubling or halving of the area of exposure, the 55 LDN standard —expressed in terms of a public health and welfare goal—results in double the area of 30 NEF. Assuming equal population density, 32 million people are thus exposed today to levels of aircraft noise deemed unacceptable as a national standard.

NOISE would like to be on record that current EPA estimates of population exposed to excessive levels of noise from aircraft do not include numbers of people exposed to noise from military or general aviation aircraft at airports where the noise of their operations predominate.

NOISE municipal and county government membership represents approximately five million airport community residents exposed to excessive levels or aircraft noise. While NOISE has been joined in its effort by support from other public interest and environmental protection organizations including PROD, the Professional Drivers Council, the Environmental Defense Fund, the Sierra Club, the Natural Resources Defense Council, Environmental Action and others, NOISE is the only national organization established primarily to deal with the problem of aircraft noise.

NOISE's goal is the elimination of all noise which is unnecessary to the safe and efficient operation of air transportation services. Our purpose is the application of maximum noise control technology consistent with safety and efficient operation.

NOISE is not, as some adversaries would picture us, anti-aviation. We appreciate that the committee's immediate need is the consideration of funding authorization for the Office of Noise Abatement and Control, U.S. Environmental Protection Agency.

NOISE was the primary public interest advocate of an EPA role in aircraft noise control. H.R. 11021, the Administration's version of the Noise Control Act of 1971/72, was enacted by the House on February 29, 1972 with virtually no dissent. Fortunately, for people living in the vicinity of the nation's airports, S. 3342 was introduced by Senators Muskie and Tunney. S. 3342 provided, for the first time, for a strong EPA role in aircraft noise control. While this role was seriously diluted in the final compromise between the House and Senate bills, we now have more than two years experience to draw upon.

As enacted, the Noise Control Act requires no more than an investigation and report by EPA on the adequacy of FAA actions to control noise from aircraft (Sec. 7(a), P.L. 92–374) and the submission of proposed regulations as EPA determines is necessary to protect the public health and welfare (Sec. 7(c)(1).

As committee members know, the EPA report to Congress, dated July 27, 1973, characterized FAA actions to control noise from aircraft as "inadequate." Pursuant to Section 7(c)(1) the EPA is presently (beginning on December 6, 1973) submitting proposals for needed measures determined to be available to FAA.

Although FAA is proceeding with the specific statutory administrative requirements for the conduct of public hearings and publication in the Federal Register, it would be naive to believe FAA has any intention of considering the EPA proposals on their merits much less implement them as regulations.

For the record of the committee, I am submitting copies of NOISE comments to both the FAA and EPA regulatory dockets and in testimony for hearings this month on EPA submitted regulatory proposals to FAA for:

1. Small Propeller Driven Aircraft.
2. Noise Abatement Minimum Altitudes Within Terminal Areas: Turbojet Powered Airplanes.
3. Civil Subsonic Turbojet Engine-Powered Airplanes Noise Retrofit Requirements.

While valuable—as the public and Congress might thereby become better informed—the provisions of Section 7 amount to little more that public disclosure requirement(s). The FAA is complying with this part of the statute in a perfectly perfunctory manner.

To this day, the FAA has not promulgated one single *rule* requiring the provision of "present" relief from aircraft noise as mandated by Section 611 of the Federal Aviation Act of 1958 as amended by the Aircraft Noise Certification Act (P.L. 90–411).

There is competent legal opinion that the '68 Act was not needed as, according to a U.S. Attorney General's written opinion in 1967, the broad language of Section 307(c) of the Federal Aviation Act of 1958 (P.L. 85–726) provided the FAA with adequate statutory authority to take whatever steps necessary to abate aircraft noise including the certification of new aircraft types.

The FAA has employed every device available to it to procrastinate to delay and avoid taking even the most rudimentary actions available to it to abate the noise nuisance. While, at the same time, the FAA/DOT would tell Congress and the public it has taken numerous "actions" to control noise. Analysis of FAA/DOT noise control actions reveals nothing effective except a continuing misrepresentation to the public and the Congress.

52-021 O - 75 - 6

By its own admission and contrary to statutory mandate and legislative intent, the FAA continues to this date to rely upon "voluntary compliance" on the part of of each aircraft operator and, indeed, each pilot for reduced noise operation. This situation was discussed in the report of the Subcommittee on Aeronautics and Space Technology on "Aircraft Noise Abatement", dated December '74. While not having direct oversight over the FAA, the committee felt compelled to investigate its inadequacies following a routine review of NASA programs.

NOISE wishes to join with the view of Arthur Fox, the representative of PROD, concerning the existence of a clear adversary role by the EPA, on the one hand, and the FAA and (OHSA), on the floor. While NOISE is not intimately acquainted with OHSA deficiencies re occupational health and safety, we are deeply conversant with FAA deficiencies in aircraft noise control. Traditionally, CAA/FAA/DOT have ignored the implication of environmental impact of their actions to promote air transportation, despite their clear official recognition in the report of the President's Airport Commission, "The Airport and its Neighbors," submitted to President Truman, May 15, 1952. Each category of prevention measure was recommended in the report to President Truman. Not one was acted upon by the CAA or its successor agencies, the FAA/DOT.

Certainly, the most important element of the EPA role in the bureaucratic scheme is its inherent advocacy of the public interest. Regardless of how imperfect its specific actions may be—witness its abandonment of the public interest in the issuance of noise rules for interstate motor carriers. This "rule" was apparently compromised by a coalition of industry, federal agency and private consultant pressures—the fledging EPA-ONAC was unable to withstand.

As a comment on governmental policy, NOISE cannot agree that the same people who, because of their day to day work intimacy, become most familiar with the regulated industry, should establish needed regulatory standards. The contrary is true. Congress woke up to this problem on the issue of reorganization of the Atomic Energy Commission.

From the beginning, immediately after enactment of the Noise Control Act when EPA requested FAA participation on its Task Force to consider the adequacy of FAA controls on aircraft noise, FAA has declined to participate and/or cooperate. The situation is contrary to the cooperative picture presented by EPA, DOT and OSHA testimony.

Sadly, the Congress and the public have been exposed to a long-time hoax by the FAA. Let me quote one paragraph from testimony presented by the FAA before your committee in 1962:

"Pursuant to its authority to issue air traffic rules, the Agency has promulgated a national rule setting forth traffic patterns, approach and takeoff procedures and provisions requiring that preferential runway procedures developed for specific airports for noise abatement purposes be used by all pilots unless safety conditions are overriding."

There was no such "national rule" promulgated in 1962 nor has any been since. The availability of such procedural benefits has never been in question. Only the will to implement them.

In June 1971, the Boeing Company published a report entitled "Effects of Aircraft Operation on Community Noise." Let me read a brief conclusion and final recommendation of the report which I shall make available—if desired—for the record:

"Significant reductions in community noise can be attained through early adoption of readily available regulatory and procedural changes in the vicinity of airports. Such changes can be made at little cost, would require no particular increase in pilot skill or pilot workload, and are not considered to have any effect on safety."

Boeing recommended that:

"Applicable air regulations such as FAR Part 36 be modified such that encouragement and incentive be given to noise abatement through operating procedures. This should be an inherent part of the overall effort to reduce community annoyance."

What has been the response of the FAA to the Boeing recommendations? NOTHING! Not one of them has been implemented nor has even a so-called advance notice of proposed rule-making (ANPRM) been issued. An example of the Boeing recommendations is standardization on a 3.0 degree ILS glide slope with consideration being given to 3.5 degrees. Today, with glide slope angles varying considerably, well over 50% remain at less than 3.0 degrees.

The Boeing Company, NASA, EPA, the manufacturers of Concorde and many independent safety experts recommended a 3000 ft. above field level (APL) glide slope intercept altitude for both safety and noise abatement purposes. We are not hopeful FAA will adopt this perfectly logical recommendation incorporated in a proposed rule-making by EPA and submitted to FAA last December 6. A copy of NOISE's testimony on this proposal is also attached for your record.

It has become clear that FAA will not make changes for safety purposes or for noise. The reasons for such resistance to change even when the benefits are manifest and are mandated by law, is unclear. Perhaps some light will be shed on this inexplicable behavior by the National Transportation Safety Board when it reports on its investigation of the recent crash of TWA #514. Considerable testimony and interest was focused during extensive hearings on this very subject.

Apart from considerations for safety which of course are overriding, the public and Congress cannot continue to rely upon the FAA to both promote air commerce and to regulate it for safety and environmental purposes, both of which it perceives as constraints on its primary role. As poor as the FAA role in safety is being found to be, its record in aviation noise and exhaust emissions control is more dismal. NOISE concurs with Mr. Justice Douglas' conclusion for the majority in the *Burbank* case, "If changes are needed Congress must make them."

For the information of the Committee, if the Boeing recommendations for the implementation of operating procedures were adopted en toto and routinely adhered to through actual regulatory enforcement, something like 85% of the existing area in the vicinity of our nation's civil airports now exposed to excessive levels of aircraft noise would be eliminated. This, without any acoustic retrofit. If all jet transport operators including business jets were required to execute the simple takeoff and approach procedures now and since 1971, employed by Northwest Airlines, the area of noise impact would be reduced—conservatively—by 50%. It is obvious, considerations of safety and cost are not real factors. NW has found safety to be enhanced and costs reduced by their use of effective reduced noise flight procedures.

Analysis of the items often listed by the FAA as regulatory "actions" taken for noise control reveals that not one of them has the slightest bearing on providing "present" relief from aircraft noise as mandated by the Aircraft Noise Abatement Act of 1968 (Sec. 611, P.L. 90–411). FAR Part 36 merely placed numbers on the levels the manufacturers predicted they would achieve with their new generation of wide bodied aircraft with high by-pass ratio engines. Two of these, the DC–10 and L–1011 achieved significantly lower levels. Similarly, it was not until Boeing made inclusion of sound absorbant materials (SAM) in new production 727 and 737 aircraft mandatory that the FAA issued a rule requiring it.

Another example of FAA claim of "rule-making action" involves issuance of Advisory Circular 91–39. In the absence of any enforcement, voluntary compliance with the procedure described therein results in maximum noise for the most heavily impacted close-in airport-community neighbors. The procedure was developed by the airlines and rubber stamped by the FAA. Another so-called "rule-making action" is the so-called "keep 'em high" program. While claiming it was adopted for noise abatement purposes, it actually was an effort to provide greater vertical separation between high and low performance aircraft in terminal areas. A review of existing ILS glide slope intercept and minimum vector altitudes in terminal areas reveals they were not raised from ridiculously low levels.

The only exception to these criticisms is the FAA requirements which it imposes in the form of "voluntary agreements" on its tenants at Washington National Airport. Acting in its legal capacity as airport proprietor as contrasted with federal regulatory agency, the FAA requires compliance with the following as a condition for the continued use of National facilities:

1. No scheduled jet arirvals or departures between 10 p.m. and 7 a.m.
2. Trust cutback to 1.6 and 1.54 EPR for JT8D engined aircraft of two and three engines, respectively, when reaching 1500 feet and maintained 'til reaching nine (9) miles from the airport.
3. ATC procedures which effectively keep aircraft quite high throughout the approach from the north and at low throttle settings.
4. ILS glide slope on r/w 36 having Category II approach minimums set at 3.0 degrees when FAA national standard for Category II glide slopes was 2.5 degrees.

5. Prohibition on the types of aircraft which may use the airport. Note: This is a difficult one to understand from a noise standpoint because they also prohibit quiet DC–10 and L–1011 which the airlines bought for use at National.

Regardless of its effectiveness in implementing all the provisions of the Noise Control Act of 1972, NOISE finds the EPA has adopted the role of official government spokesman for the public interest and the environment. The public is relatively disenfranchised vis a vis the special interests, being less organized and financed in advising Congress and the Executive Branch of existing deficiencies. NOISE has closely observed the relationship between the EPA and FAA since immediately after passage of the Act in October 1972. This relationship can only be characterized as adversary. There is absolutely no cooperation at the working level. We are aware of administration spokesmen's claims of harmonious working relationships. We suggest you make the same inquiry of technical personnel preferably under oath. A similar if not stronger adversary relationship exists between EPA and OSHA. Again we recommend you look into the situation which is contrary to testimony given at numerous Congressional hearings.

We find that EPA invariably, as it inherently must, takes the position of public interest advocate. FAA policy is obviously dictated by the industry it is established to regulate as is the Department of Labor OSHA. Again, this is difficult to understand. For example, The OSHA advisory committee for evaluating noise standards for the workplace consists, in the majority, of members who are employees of industries to be regulated by the standard.

In March 1974, NOISE joined with the Professional Drivers' Council for Safety and Health (PROD) in testimony before EPA-ONAC seeking strengthening of the proposed rule for noise limits on interstate motor vehicles. EPA did not strengthen the rule which Senator Muskie characterized as "Legalization of noise pollution." According to the EPA surveys, less than seven percent of existing five axle diesel trucks currently exceed the 90 dBA level and as promulgated last October, the rule permits all two, three, four and five axle gasoline and diesel trucks and buses weighing ten thousand pounds or more to produce 90 dBA with another 2 dB for measurement tolerance. This rule was strongly sought by the vehicle operators who had become concerned with the actions of individual states to regulate their noise. Of course, promulgation of the federal rule preempts states and localities from such action to protect their citizens.

With publication of "Proposed New Medium and Heavy Duty Trucks and New Portable Air Compressor Noise Emission Standards" (copy of NOISE testimony is attached), together with the proposed rules for aircraft noise control currently being submitted to the FAA, NOISE believes EPA deserves strong support. We are especially pleased with the format and content of the aircraft noise regulatory scheme EPA has adopted and for which it is currently seeking FAA implementation.

In conclusion, NOISE believes the very existence of EPA together with its environmental noise control program is vital to our national health and welfare. We urge that you recommend its continued funding at current levels with the condition that new statutory deadlines be placed upon the implementation of important program elements.

Thank you.

List of Attachments:

1. Report of The Boeing Company, "Effects of Aircraft Operation on Community Noise," dated June 1971.
2. NOISE testimony on "Proposed New Medium and Heavy Duty Trucks and New Portable Air Compressor Noise Emission Standards" on February 20, 1975.
3. NOISE testimony on "Noise Abatement Minimum Altitudes Within Terminal Areas: Turbojet Powered Airplanes," (FAA Notice 74–40), 5 March 1975.
4. NOISE comments for the docket on "Recommended Notice of Proposed Rulemaking on Civil Subsonic Turbojet Engine-Powered Airplanes Noise Retrofit Requirements" (ONAC Notice 74–4), dated March 12, 1975.
5. FAA testimony "regarding the aircraft noise problem and its impact on the communities surrounding the Chicago O'Hare International Airport," before the Subcommittee on Transportation and Aeronautics and the Special Subcommittee for Regulatory Agencies, House Committee on Interstate and Foreign Commerce, July 17–18, 1962. [In committee files.]
6. Roy P. Jackson, Assistant Administrator, NASA, "Putting All Our Noise Control Technology to Work," *Astronautics and Acronautics*, January 1975.
7. NOISE recommended federal legislative program outline dated February 1975.

EFFECTS OF AIRCRAFT OPERATION ON COMMUNITY NOISE

M. C. Gregoire and J. M. Streckenbach
The Boeing Company
Commercial Airplane Group
Seattle, Washington

ABSTRACT

Several means of reducing community noise through changes in airplane operations are discussed and specific examples given. The discussion is divided into two general areas of responsibility: regulatory changes affecting traffic in the airport vicinity and operational or procedural changes available to the airlines. The latter category is further divided into those procedures currently optional to the pilot and airline and those that can be made available through airplane system modifications. Flight profiles for specific airplanes at specific airports are included, along with the noise reductions available. System block diagrams and actual flight data are provided when available. It is concluded that significant reductions in community noise can be attained through operating changes, without affecting safety, and at low cost. Recommendations are made for a course of action to define and implement feasible techniques.

INTRODUCTION

Public pressure is increasing daily against the airlines, the airframe and engine manufacturers, and local airport authorities to reduce aircraft-generated noise in airport communities. Three general areas of community noise improvement have been and continue to be studied to solve this ever-increasing problem. The three areas can be summarized as:

1) Reduction of the noise at its source by quieting the engine installations on the aircraft

2) Changes in land utilization in airport communities

3) Changes in operational procedures in the vicinity of airports

The first of these areas has been the subject of extensive investigation by industry and government agencies for several years. Recent enactment of Federal Air Regulations, Part 36, by the Federal Aviation Administration has established noise criteria for the design and certification of new aircraft not previously certificated. Although not the subject of this paper, considerable work now being done in industry and government programs is related to examining means of retrofitting the existing fleet of commercial fanjet transport aircraft to significantly reduce their community noise levels. As would be expected, the magnitude of noise reduction attained is closely related to technical feasibility and to the economics of airplane modification and operation.

To summarize the second area, it will only be stated here that both Federal and local agencies are continuing to study the possibilities of community noise relief through better land utilization. Such studies encompass the subjects of improved planning for new airports, tightened building codes and zoning restrictions, and revised land utilization around existing airports. Obviously, as in the case of retrofitting the current fleet with quieter engine installations, economics is an important and unavoidable consideration in land utilization studies.

The third area, noise-abatement operating procedures, is discussed as the main topic of this paper.

NOISE REDUCTION THROUGH OPERATIONAL CHANGES

A potential for significant relief of the community noise problem at relatively low cost lies in several areas of airplane operation in the vicinity of airports. In 1966, Oscar Bakke of the FAA presented a paper that discussed several aspects of air traffic control and flight procedures as related to reducing community noise.[1] Some of the general areas discussed by Mr. Bakke are covered in this paper, with the added benefit of several years' study and actual flight testing conducted since his paper. Examples are presented for specific aircraft in an attempt to add emphasis to the feasibility of several methods of reducing community noise.

Recommendations of the International Civil Aviation Organization (ICAO) relative to safety considerations in establishing noise abatement operating procedures[2] are recognized as typical constraints in the discussions that follow.

Potential areas of noise reduction through operating procedures fall roughly into two categories: (1) Federal or local air regulations and (2) operating procedures that are or may be made available to the airlines.

Regulatory	Operational
• Holding and maneuver altitudes	• Delayed flap and gear extension
• Optimized traffic patterns	• Two-segment approaches
• Glide slope	• Flap position for landing
• Glide slope intercept altitude	• Takeoff procedures

As will be discussed later, any consideration of these potentials for noise relief must include their relationship to safety, airplane performance constraints, aircraft modification requirements, pilot acceptance, the geography of the specific airport, and the economic aspects of the change.

Regulatory Changes

In general, any action taken to increase the height of aircraft over a community will reduce noise in the community. Many complaints in the past have been based on aircraft flying at low altitude for miles over the community during landing approach. The FAA "keep 'em high" order,[3] released on September 19, 1970, has community noise reduction as one of its purposes. Approach and departure handling of commercial jets at many airports are already reflecting the benefits of this order. Specific quantitative examples of implementation of such procedures will be shown later in this paper.

Holding and Maneuver Altitudes. The holding or maneuver altitudes over suburban areas are shown in figure 1 to have a sizeable effect on noise under the aircraft. The example shown is based on a 727-200 airplane at a landing weight of 150,000 lb. Besides the noise-reduction benefits of increasing the altitude, additional benefits exist in selection of airplane configuration (e.g., flaps and landing gear). As illustrated, in the zero-flap, gear-up configuration, a noise reduction of 9 EPNdB* results from increasing the altitude from 1500 to 3000 ft. Avoiding flap and gear extension until really required, combined with the 1500-ft altitude increase, gives noise reductions of as much as 16 EPNdB.

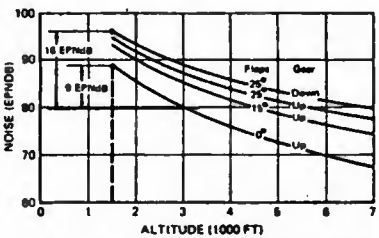


Figure 1. Effect of Holding or Maneuver Altitudes on Noise

It is apparent from this that, in any cases where holding or maneuver altitudes can be raised and clean configurations maintained within constraints established by traffic requirements, definite reductions in community noise can be realized at little or no cost.

Optimized Traffic Patterns. The noise benefits available through optimizing traffic patterns are mainly related to routing of arriving and departing aircraft over nonsensitive areas of the community. This is being done at many aiports now, in some cases at the expense of traffic handling flexibility. Rerouting of traffic in the JFK International Airport area in New York to avoid flying over densely populated areas has severely restricted the traffic handling flexibility of that airport, but there is no questioning the direct benefit of such action to the noise-sensitive public.

Glide Slope. Standard glide slopes at airports throughout the world have been generally established on the basis of safety, pilot acceptance, and airplane performance capabilities. This should not preclude a further look at glide slope changes as a potential area for noise abatement, as long as these same factors are kept in mind. The easiest point of departure for discussing glide slope changes starts with the fact that 3° glide slopes are generally accepted and are standard at many airports today. However, approximately 30% of present glide slopes at major United States airports are as low as 2.5°.

Numerous actual test flights have been conducted by Northwest Airlines[4] on 707, 727, and 747 aircraft at glide slopes on the order of 1/2° above the ILS slope. These flights have demonstrated approach noise reductions of 1 to 5 PNdB, depending on the airplane type and microphone location. The flights have been conducted by visually mismatching the reference airplane symbol and the flight director command bars, so that the airplane followed a path above the ILS glide slope. These flights have demonstrated that raising glide slopes is worthy of consideration as a noise-abatement action.

Analyses conducted by Boeing generally confirm the Northwest Airlines flight data. Figure 2 illustrates the trades between glide slope angle and noise for the 727-200 airplane at various distances from the runway threshold. Noise reductions on the order of 5 to 7 EPNdB are shown for a 1° increase in glide slope. Similar benefits are available with other aircraft.

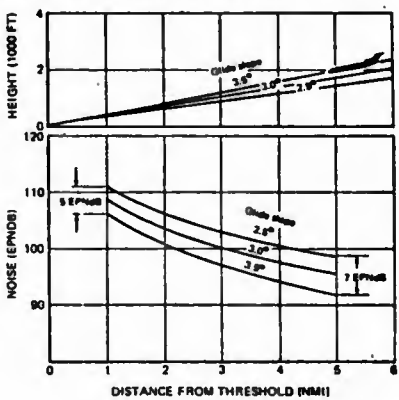


Figure 2. Effect of ILS Glide Slope on Noise

Another way of looking at the noise benefits of higher glide slopes is the change in community area in square miles subjected to a given noise level. Figure 3, again using the 727-200 airplane as an example, shows the area in the community under the approach path subjected to a noise level of 90 EPNdB or higher as a function of glide slope angle. Note that a change from 2.5° to 3.5° glide slope will result in nearly a 70% reduction in the community area subjected to the reference noise level. This can be related to 70% of the population in a residential area.

The foregoing discussion has related to small changes in glide slope that we believe could be implemented at relatively low cost at all airports without degrading safety.** They represent changes that appear to be well within the region of acceptance by most airline pilots flying current-generation jet transport aircraft. Precedence has been established and demonstrated by the 3.22° ILS glide slope at San Diego International and by hundreds of jet landings per week for several years on the 3.5° ILS glide slope on runway 27L at Berlin's Tempelhof Airport. To our knowledge, no landing accidents have occurred at Tempelhof that could be attributed to the glide slope angle. Pilot acceptance of 3.5° glide slopes, without need for changes in approach techniques, has been indicated by the Air Line Pilots' Association.[5]

*The EPNdB noise unit incorporates adjustments for the subjective effects of aircraft noise on humans, including corrections for tone and duration, as defined in Federal Air Regulations, Part 36, dated November 3, 1969.

**For Category II landings, FAA Advisory Circular 120-29, dated September 25, 1970, specifies a 3° maximum glide slope. Reconsideration of this limitation may be justified in the future in light of community noise benefits of increased glide slope angles.

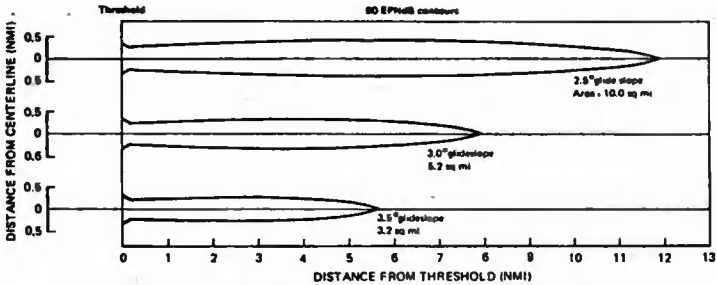


Figure 3. Noise Footprint Comparisons of Various Glide Slope Angles

Future development of the currently planned microwave scanning-beam guidance system will provide additional noise-reduction capability in the areas of traffic patterns and glide slopes. Such a system will provide pilots with programmed, curved, precision flightpath guidance data in both elevation and azimuth, permitting steeper descents and avoidance of residential communities.

Glide Slope Intercept Altitude. The effect on community noise of glide slope horizontal intercept altitude is illustrated in figure 4. Here again, using the 727-200 in a simplified example, the airplane is shown approaching the ILS glide slope at altitudes of 1500 and 3000 ft. In both approaches, the same flap and gear positions are used. The 7 EPNdB lower community noise for the airplane at 3000 ft is due only to the altitude difference. This simple case illustrates the type of noise benefits currently being attained through implementation of the FAA "keep 'em high" order discussed previously.

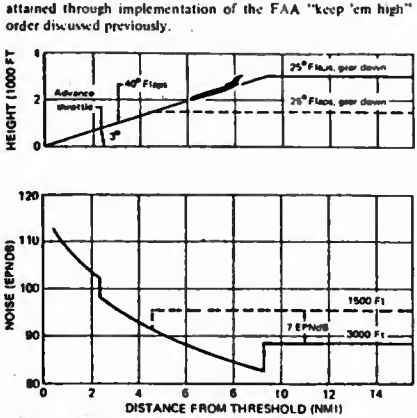


Figure 4. Effect of Horizontal Intercept Altitude on Community Noise

Now let us take a situation in which the noise abatement principles of the FAA order have been implemented at a major airport. Figure 5 shows two arrival profiles into Love Field, Dallas, Texas, using runway 13L. The Bridgeport Two arrival was in use prior to August 20, 1970. Since then the Holly One arrival has been instituted for noise control. We have constructed the illustration using a 727-200 airplane, following our understanding of typical Love Field approaches by these two arrival routes, including vectors to final approach course. Although the ground tracks for the two approaches are different, their respective altitudes above the community serve to compare the differences in noise levels under the flightpath attributed to low versus high profiles. Similar noise benefits can be shown for any jet transport approaching Love Field on these profiles.

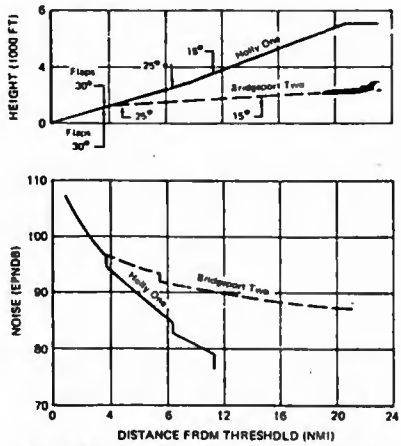


Figure 5. Effect of Increased Altitude on Noise in Dallas-Love Field Arrival Routes

Another example of what higher intercept altitudes will do for community noise is shown in figure 6. Here a 707-320B airplane is shown at various intercept altitudes approaching the 2.75° ILS glide slope on JFK runway 22L in New York City. Again, as in the Dallas illustration, it is seen that implementation of higher altitudes over the community provides significant noise relief at minimal cost.

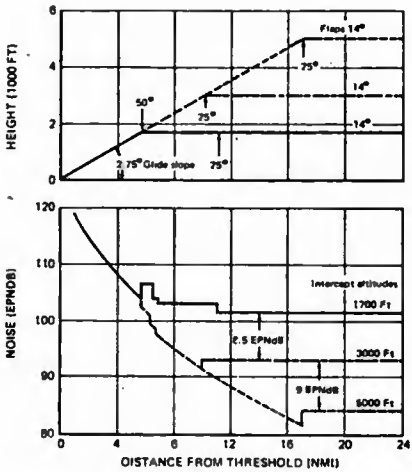


Figure 6. Effect of Increased Altitude on Noise in New York—JFK Arrival Routes

Airline Operational Changes

The foregoing discussion has shown some of the community noise benefits attainable through changes in Federal and local regulations related to holding altitudes, traffic patterns, glide slopes, and glide slope intercept altitudes. Now let us look at some of the procedural options available for that can possibly be made available to the airlines for reducing community noise, separate from regulatory changes. In some cases, as will be discussed, equipment modification may be necessary or desirable to permit certain procedures without adverse effects on safety or pilot acceptance.

Delayed Flap and Gear Extension. Noise in the community can be reduced by delaying landing flap and gear extension until close to the runway threshold. Figure 7 compares two cases for a 727-200 airplane. Note that, for several miles over the community, the delayed flap and gear extension reduces the noise on the order of 7 EPNdB. This option is available to the airlines without airplane modification. The minimum distance from the threshold at which landing flaps and gear are extended is subject to pilot discretion but can be considerably closer in than is often practiced, with no effect on safety.

Whatever the distance from the threshold may be for the above technique, using current airplane systems, the distance can be reduced even further if sufficient systems automation is provided to avoid increasing pilot workload or degrading safety. To gain the maximum noise benefit from delayed flap and gear extension, the procedure must be capable of maintaining reduced thrust levels until the airplane is beyond the noise-sensitive area, e.g., probably less than 1 nmi from the threshold.

Figure 8 shows that, using the same profiles as in figure 7 but delaying extension of landing flaps until closer in and with the aid of systems automation, the noise reduction under the flightpath continues to within less than 1 nmi from the runway threshold.

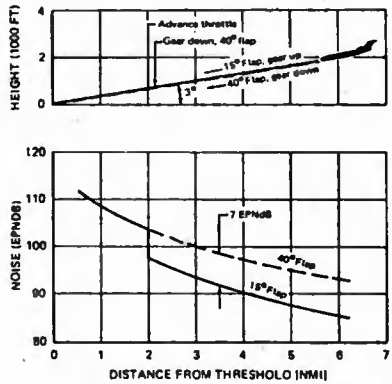


Figure 7. Noise Reduction by Delayed Flap and Gear Extension

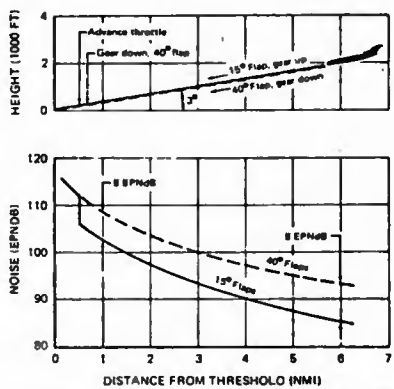


Figure 8. Noise Reduction by Delayed Flap and Gear Extension—Automated Approach

Figure 9 compares the noise levels of figures 7 and 8 by means of noise footprint contours. The contour for flying down the glide slope with 40° flaps and gear down has an enclosed community area of 5.2 sq mi. By delaying extension of flaps and gear, this area is seen to reduce by 64% or 72%, depending on whether the profiles of figures 7 or 8 are used.

As previously stated, delaying flap and gear extension to as late as shown in figure 8 requires sufficient system modifications to avoid increasing pilot workload or degrading safety. The Boeing Company has improvised a closed-loop system that holds to these guidelines. A closed-loop system is one that has a programmed schedule but has the inherent logic and feedback to correct for deviations from the schedule. The system has been

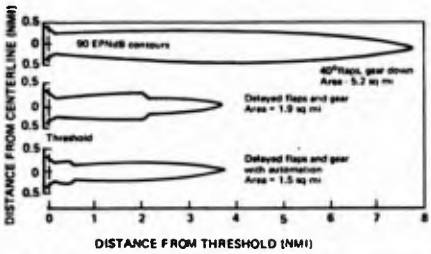


Figure 9. Noise Footprint Comparisons of Delayed Flap and Gear Approaches

operated in a flight simulator and flight tested on the company-owned 727-200. The components of the system, shown in the block diagram of figure 10, consist of:

1) Autothrottles

2) Electrohydraulic flow valves

3) Flap position transmitters

4) Control panel

5) Autoflap coupler

6) Autothrottle computer

7) Visual landing aid sight and computer

8) Central air data computer

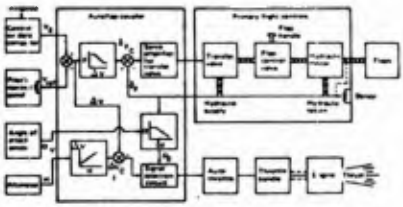


Figure 10. Autoflap Schematic—Approach Mode

The procedure that has been the most successful follows:

1) The pilot establishes approach configuration—flaps 15°, gear down, altitude above 1500 ft, and airspeed equal to V_{ref} + 55 kn.

2) Prior to intercepting the glide slope, the autoflap system is armed by selecting the LAND mode on the control panel.

3) The flap handle is then moved to the desired final flap setting, and the corresponding final approach speed is set on the speed index (bug).

4) The glide slope is captured and final descent initiated.

5) As the airplane passes through approximately 1200 ft above the runway, the system is triggered.

6) The altitude change demands a speed reduction that is accomplished by retarding the throttle.

7) The flaps are controlled by airspeed and extend as speed is reduced.

8) When flaps reach the final desired position and the airspeed is within 5 kn of the final speed set on the bug, the throttles advance automatically to arrest the deceleration. At this point, the airplane is about 200 ft above the runway. The airspeed then stabilizes and is constant until landing flare is initiated.

Throughout the autoflap approach, because of speed programming, the airplane's body attitude remains constant. The sample flight profile, figure 11, demonstrates the automatic flap management experienced with the Boeing flight test airplane. This particular profile was flown without use of the autopilot by manually following the instrument cues.

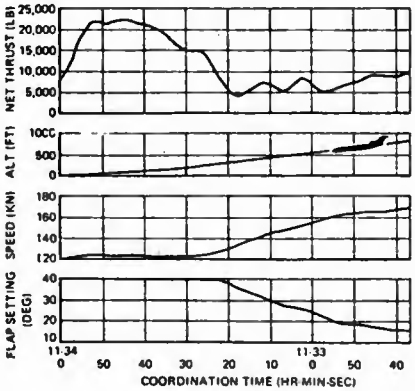


Figure 11. Autoflap Approach—727-200 Flight Test

Note that the low thrust level for approach flaps is held during the flap extending period until the 350-ft altitude point. The speed and altitude are bled off smoothly as the flaps extend. The maximum throttle movement during flap extension was 1.3°. (System refinements, such as automatic trimming devices and autopilot, are being investigated to reduce this amount even further.) At the point where flaps are full down and speed is V_{ref} + 5 kn, thrust required to hold the glide slope (about 21,000 lb) is applied automatically. The remainder of the approach is flown normally.

In view of the substantial noise reduction shown in figure 8, this concept merits further development.

Two-Segment Approaches. Significant reductions in community noise result from intercepting the final glide slope from a steep descent, say 6°, as compared to flying the glide slope from many miles out. Figure 12 compares the approach profiles and corresponding community noise levels of a 727-200 airplane following a normal (3°) glide slope, and the same airplane performing a two-segment approach with steep descent to the glide slope. Flap and gear configurations are the same in both profiles, so the noise benefits shown are related only to differences in airplane descent angles. Note that the transition is made at 1000 ft altitude (about 3 nmi from the threshold†). This will give the pilot adequate time to stabilize on the glide slope without revisions to the current airplane systems.

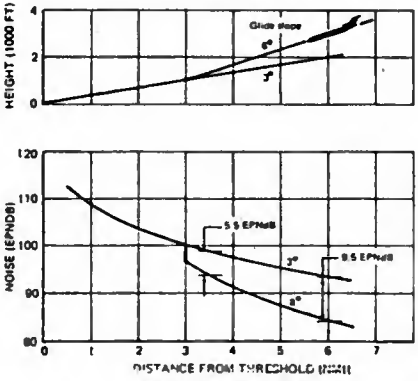


Figure 12. Two-Segment Approach

By providing system automation to permit transition from the steep descent segment to the glide slope closer to the airport, the noise benefit to the community improves, as shown in figure 13. This illustration uses the same airplane configurations as shown in figure 12, but transition from 6° to 3° slopes is initiated at 250 ft altitude, less than a mile from the threshold. Figure 13 shows noise reductions on the order of 5 to 13 EPNdB at distances of 1 to 6 nmi from the runway threshold. These are significant reductions, certainly of a magnitude readily discernable to residents living under the approach flightpath of the airplane.

Figure 14 compares the noise footprint contours of the above two-segment approaches with a normal 3° glide slope. Note the significant noise benefit of a 73% area reduction in the contour for the close-in transition of figure 13.

Regarding the feasibility of operating on such a profile, let us discuss means of accomplishing this steep descent with close-in transition within limits of safety and pilot acceptance.

Simulator development and flight testing of the Boeing model 367-80 (707/KC-135 prototype), conducted in 1968 under the NASA/Boeing investigation of noise abatement landing approaches[17,18], demonstrated that two-segment approaches

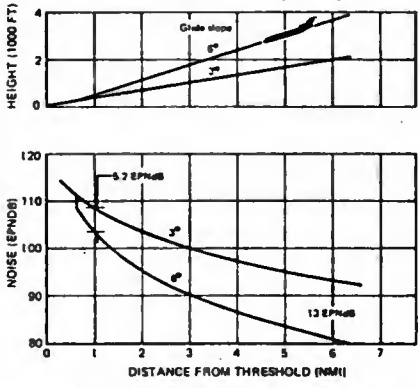


Figure 13. Two-Segment Approach with Close-In Transition

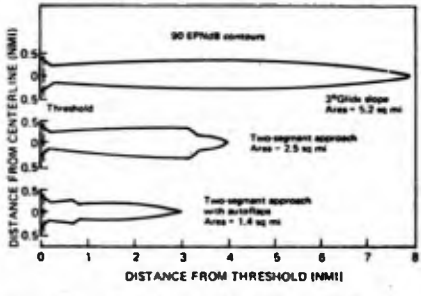


Figure 14. Noise Footprint Comparisons of Two-Segment Approaches

with close-in transition are feasible. This investigation was flown at Oakland International Airport using the existing glide slope of 2.65° and steep descent of 6° with intercept altitudes of 250 and 400 ft. The research airplane was equipped with improvements over current jet transports, including a modified flight director, an autothrottle, and stability augmentation that improved longitudinal and lateral directional handling qualities. The test profiles were flown by one airline pilot, six FAA pilots, and four NASA pilots under simulated instrument conditions.

The conclusions reached were that two-segment profiles could be flown in a modified jet transport with the same precision as a conventional instrument approach without a significant increase in pilot workload and with a significant reduction in community noise.

Adoption of such procedures for airline use would require further development and tests to establish the requirements and operational limitations of two-segment approaches in an environment more representative of airline operations and under conditions of combined adverse weather and airplane equipment or guidance failures.

† Bolt, Beranek, and Newman, Inc.[16] considered two-segment approaches in their 1970 study, with transition from 6° to 3° slopes at 3 nmi from the threshold.

Flap Setting Effects on Approach Noise. Another source of community noise reduction is the pilot option of flap position selection during approach and landing. We have probably all experienced actual flights in which landing flaps were dragged for many miles over a residential community prior to intercepting the glidepath. Figure 15 compares two approaches for the 727-200 in the same profile but at different flap positions. It shows that, at the same altitude, there is a noise difference of from 3 to 7.6 EPNdB between these two cases. As a comparison, a 707-320B or C landing at 25° flaps is about 3 to 4 EPNdB quieter at 1 nmi from the threshold than when using the normal 50° flaps. Modification to permit 25° landing flaps on these airplanes has been determined feasible. The 5-kn higher landing speed for 25° flaps would result in about a 340-ft increase in landing field length.

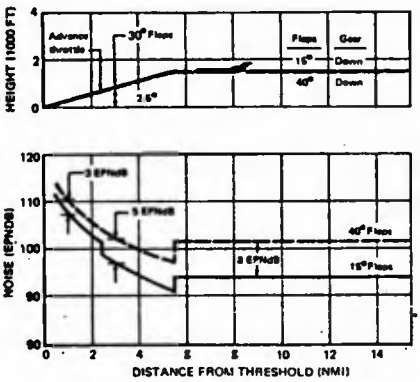


Figure 15. Effect of Flap Setting on Approach Noise

If we now combine the above flap options with the effects of intercept altitude and moderate change in glide slope discussed earlier, we have the picture shown in figure 16, showing significantly greater noise reductions than in figure 15.

Both of these profiles are within the limits of current airplane capability and operating procedures and we believe would not require any special equipment or techniques.

Now let us include the capabilities available through the approach system automation discussed in connection with delayed flap and gear extension and with steep, two-segment descents. Modifying the figure 16 profiles to include these capabilities as well as a 3.5° glide slope, we arrive at figure 17, which represents the total potential noise reduction available through adoption of approach noise abatement regulations and procedures and development of appropriate equipment.

Noise Abatement Takeoff Procedures. Many takeoff profile choices can be, and have been, investigated for reduction of community noise. The most obvious, involving only the choice between takeoff power all the way versus power cutback at some acceptable altitude, is recognized as a means of reducing noise in the close-in community.

Mr. Bakke[1] compared several takeoff procedures proposed by the FAA, by the Air Line Pilots' Association, and standard

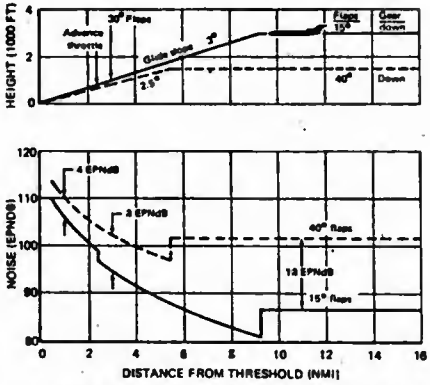


Figure 16. Combined Effects of Flaps, Altitude, and Glide Slope on Approach Noise

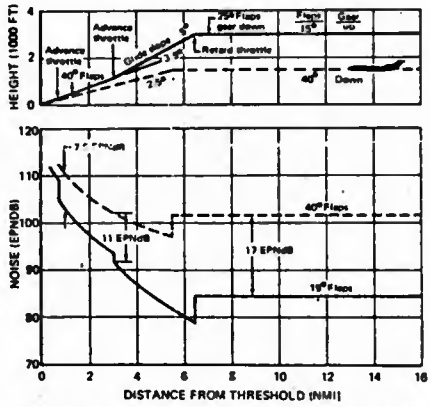


Figure 17. Approach Noise Reduction Potential Through Combination of New Techniques

operating practices of five major airlines. Some of these procedures, monitored in actual day-to-day operations at JFK International Airport, demonstrated noise reductions over the community on the order of 4 to 7.5 PNdB. Such reductions are to be encouraged. Studies at Boeing have generally confirmed these findings. Noise-abatement takeoff procedures can be performed effectively with virtually all present-day jet transport aircraft without modification of the aircraft, with no effect on safety, and with little effect on pilot workload. Beyond this, techniques involving some automation and capable of even greater noise benefits are believed within easy reach. Discussions of specific examples of both types of procedures follow.

Again, using the 727-200 airplane as an example, figure 18 compares two takeoff profiles, both employing power cutback at 3.5 nmi from brake release but using different flaps. Power cutback in both cases is to the level that would maintain level

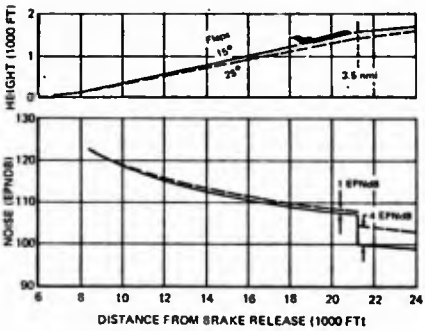


Figure 18. Comparison of Two Takeoff Profiles—Manual Flap Retraction

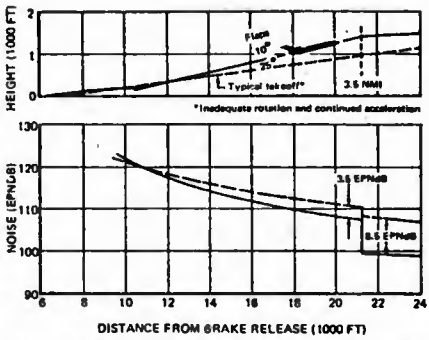


Figure 19. Comparison of Two Takeoff Profiles—Automated Flap Retraction

flight with one engine inoperative. Both airplanes take off with 25° flaps. One maintains this flap setting throughout climbout, whereas the other, after accelerating to V_2 + 10 kn, retracts flaps to 15°. Note that the 15° climbout permits a steeper climb gradient (lower noise at takeoff power) and cutback to lower thrust (one-engine-out level flight thrust for 15° instead of 25°), resulting in lower noise after cutback due to both greater altitude and lower thrust. In the case illustrated, the noise reductions are 1 EPNdB and 4 EPNdB before and after cutback, respectively.

This procedure is optional to pilots, requires no airplane modifications, and is similar to operations being used at the present time by certain airlines. Comparable noise reductions were experienced by NASA during 1968 noise abatement takeoffs[6] of the Ames CV-990 airplane at Wallops Station.

An improvement in the noise picture of figure 18 is attainable by incorporating an automated flap system, permitting speed-controlled programming of flaps during climbout. Figure 19 illustrates such a procedure, in which, in one case, the flaps are programmed to 10° after a 25° takeoff, and in the other case, the flaps are 25° all the way. Figure 20 shows a reduction of 50% in the land area enclosed by the 90 EPNdB footprint contour for the autoflap profile.

The additional noise benefit of this procedure seems to justify further investigation of means by which it can be accepted as routine. The closed-loop system mentioned earlier, but in a takeoff mode, has been simulator tested and flight tested by Boeing. The system is shown in the block diagram, figure 21, and consists of a simplification of the approach mode.

The takeoff procedure is simple, utilizing the following:

1) Pilot selects the takeoff flap position.

2) He then arms the autoflap system by selecting the TAKEOFF mode on the control panel.

3) The flap handle is moved to the position to which the flaps will be retracted.

4) The flaps do not move until an electrohydraulic transfer valve is opened.

5) The transfer valve will not open until the following conditions are satisfied:

   a) Airspeed must exceed V_2 + 10 kn for the takeoff flaps.

   b) Landing gear must be up and doors closed.

6) When the above conditions are met, the flaps retract at the normal rate to the position selected previously.

7) When this position is reached, the airplane establishes best climb profile.

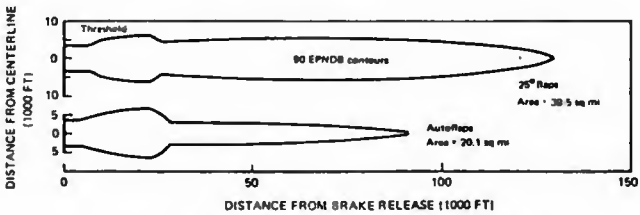


Figure 20. Noise Footprint Comparisons of Takeoff Profiles

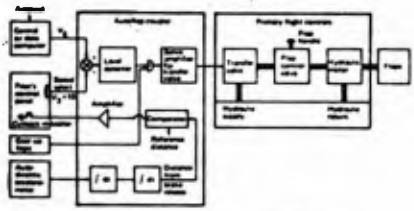


Figure 21. Autoflap Schematic—Takeoff Mode

The system also has the capability of sensing horizontal distance. This information is obtained from the autothrottle accelerometer, which uses double integration to compute the horizontal distance. The computed distance then is compared to a reference distance, and, if exceeded, a light will be illuminated in the cockpit to alert the pilot to initiate noise-abatement thrust cutback procedure.

CONCLUSIONS

On the basis of the foregoing discussion and on the results of testing conducted by NASA, the FAA, the aircraft industry, and the airlines, the following general conclusions are drawn:

1) Significant reductions in community noise can be attained through early adoption of readily available regulatory and procedural operations changes in the vicinity of airports. Such changes can be made at little cost, would require no particular increase in pilot skill or pilot workload, and are not considered to have any effect on safety.

2) Further noise reduction benefits are available through certain additional operating procedures requiring development of techniques and equipment modifications to avoid increasing pilot workload.

These conclusions were generally supported in an April 1971 paper,[5] presented by the Air Line Pilots' Association at the FAA National Aviation System Planning Review Conference.

RECOMMENDATIONS

Because of the potential community noise benefits to be gained through noise abatement operating procedures, a two-phase positive course of action to define and implement feasible techniques is recommended. We suggest that such a program be conducted under FAA sponsorship as an industry cooperative effort, with AIA, ATA, and ALPA working together as a team.

Phase I would entail early implementation of regulatory and operational procedures that can be accomplished at little cost and with little or no equipment modification. Typically, they include:

1) Establishing minimum holding pattern and maneuver altitudes of 3000 ft or higher over the terrain

2) Routing traffic over low population densities to the extent feasible

3) Raising all glide slopes to a minimum of 3°, with 3.5° being given serious consideration

4) Establishing minimum glide slope horizontal intercept altitudes of 3000 ft or higher over the terrain

5) Delaying extension of landing flaps and gear as long as practical

6) Using reduced landing flap settings whenever operating conditions permit (at the expense of some increase in landing speeds and landing field lengths)

7) Using segmented takeoff profiles adaptable to each airplane type, specifics of such profiles to be worked out cooperatively by the airlines, the manufacturers, and the FAA

Phase II would include development of additional noise abatement procedures, discussed in this paper, requiring airplane and/or ground equipment modification to preclude degrading safety or increasing pilot workload. The program should consider all U.S. subsonic turbojet-powered commercial transport aircraft as candidates.[††] Participating AIA companies would develop techniques and related equipment modifications for their respective models and flight test the procedures using company, FAA, and airline/ALPA pilots. It would be desirable to standardize procedures, to the extent permitted by individual airplane characteristics, to simplify adoption by the airlines.

Firm technical data would be derived to form a basis for maximum exploitation of the noise-abatement benefits of regulatory and operational changes, including appropriate ground and airborne systems modifications. The program should aim toward ensuring adequate safety; attaining worthwhile noise reduction; eliminating those procedures determined not feasible or worthwhile; and gaining FAA, airline, and pilot acceptance.

It is further recommended that applicable air regulations, such as FAR, Part 36, be modified such that encouragement and incentive is given to noise abatement through operating procedures. This should be an inherent part of the overall effort to reduce community annoyance.

REFERENCES

1. Oscar Bakke, "Air Traffic Control and Flight Procedures," paper included in a report of the Jet Aircraft Noise Panel, *Alleviation of Jet Aircraft Noise Near Airports*, Office of Science and Technology, Executive Office of the President, March 1966.

2. ICAO letter AN 1/54.6-70/32, app. A, annex 16, atch. C, "Guidance Material Relating to Safety Considerations in the Establishment of Aircraft Noise Abatement Operating Procedures," March 19, 1970.

3. *Arrival and Departure Handling of High-Performance Airplanes*, FAA order 7110.22, September 19, 1970.

4. William S. Hieronymus, "New Landing Method Aimed at Reduction in Approach Noise," *Aviation Week*, March 1, 1971, pp. 46 and 47.

[††] The program should include the results of the FAA-sponsored measurement program currently being conducted by Hydrospace Research Corporation.[10] Four different airplanes are being subjected to noise measurements while flying a variety of noise-abatement approach and takeoff profiles.

5. Captain Robert N. Rockwell (Chairman, Noise Abatement Committee, Air Lines Pilots' Association), "Airport Noise and Aircraft Operations," paper presented at the FAA National Aviation System Planning Review Conference, Washington, D.C., April 29, 1971.

6. D. E. Bishop and R. D. Horonjeff, *Noise Exposure Forecast Contours for Aircraft Noise Tradeoff Studies at Three Major Airports*. Final Report FAA-NO-70-7, Contract FA 68WA-1900, Bolt, Beranek, and Newman, Inc., July 1970.

7. Clarence C. Flora, Gerhard K. L. Kriechbaum, and Wayne Willich, *A Flight Investigation of Systems Developed for Reducing Pilot Workload and Improving Tracking Accuracy During Noise-Abatement Landing Approaches*, NASA Final Report CR-1427, Contract NAS 2-4200, The Boeing Company, October 1969.

8. Hervey C. Quigley, C. Thomas Snyder, Emmett B. Fry, Leo J. Power, and Robert C. Innis of Ames Research Center; and W. Latham Copeland, Langley Research Center, *Flight and Simulation Investigation of Methods for Implementing Noise-Abatement Landing Approaches*, NASA Technical Note TN-D-5781, May 1970.

9. H. Rodney Peery and Heintz Erzberger, *Noise Measurement Evaluation of Takeoff and Approach Profiles Optimized for Noise Abatement*, NASA Technical Note TN D-6246, March 1971.

10. *Operational Procedures Noise Reduction Program*, FAA contract awarded to Hydrospace Research Corporation. Program procured under FAA RFP WA5R-1-0236, November 16, 1970. Scheduled for completion (final report draft) on July 1, 1971.

RE PROPOSED NEW MEDIUM AND HEAVY DUTY TRUCKS AND NEW PORTABLE AIR COMPRESSOR NOISE EMISSION STANDARDS.[1]

Mr. Chairman, my names is Lloyd Hinton. I serve as staff to the National Organization to Insure a Sound-controlled Environment.

NOISE was established in 1969 by elected officials of county and municipal governments across the country who had beccome deeply frustrated by their inability to control ever rising levels of environmental noise.

Chief among major environmental noise sources impacting our nation's communities are transportation vehicles and coustruction equipment. We are pleased that these two regulations under consideration today deal with two major noise sources impacting our communities. These mandated under Section 6 of the Noise Control Act of 1972 and others for aircraft mandated under Section 7, currently being submitted to the FAA, offer real promise for a more tranquil environment.

NOISE is particularly pleased since we actively participated in the development of legislation and final enactment of the Noise Control Act. It is rewardiug to us that we have reached the point when it is possible for us to support actual regulatory action. Thank you, Mr. Chairman, for this opportunity to offer our views.

We are aware of the conflicting opinions which exist on the subject of regulating noise *per se*. There are some who believe in good faith that ever increasing ing noise *per se*. There are some who believe in good faith that ever increasing levels of ambient noise is the inevitable price of progress; of living in a modern society and, unless measurable hearing loss can be proven, control measures are unwarranted. We believe the contrary. All noise which is *unnecessary* to the safe and efficient operation of vehicles and equipment needed in commerce should be *eliminated*.

We must put all of our noise control technology to work. Our review of the "Background Document for Proposed Medium and Heavy Truck Noise Regulations", prepared in October 1974, convinces us the Agency has taken into full account the statutory admonitions of cost of compliance as well as public health and welfare. It is obvious EPA-ONAC has carefully researched the economics of controlling truck noise in establishing compliance dates which would impose minimum costs on manufacturer or operator. NOISE would have wished earlier compliance dates. However, we are satisfied that if adequate data had been made available—from the industry—earlier compliance dates would have been set.

Each day, month or year of delay in establishing firm regulatory requirements insures that the problem in our communities will worsen. Future remedial measures will cost substantially more as witness the projected aircraft acoustic retrofit costs.

Happily, the two regulatory measures under consideration today fall within the preventative rather than remedial categories. Their implementation does not involve retrofitting earlier production with new hardware. Thus, the cost-benefit analyses should and do show relatively small unit costs. Unfortunately, it is not yet possible to quantify precisely the value of "meaningful" environmental noise relief. Fortunately, for our people, this requirement is not mandated by law nor does its absence justify delay in instituting control measures.

NOISE recognizes and supports the statutory requirement that the costs of implementing noise control technology be taken into account. We find that in preparing its regulatory proposals, EPA has devoted majority effort to determining their economic impact. NOISE strongly endorses these regulatory proposals but request consideration of the following changes:

1. dB(C) vs. dB(A)—There is considerable body of data showing that in the 1000–2000 HZ range where both medium and large trucks and air compressor noise levels peak, the "A" weighting network provides benefits to the source not shared by the human ear. The "C" network more accurately measures the noise in this frequency range in comparison with the ear. However, we do acknowledge that uniformity in measurement scales is needed.

2. *50 MPH vs. 35 MPH*—We are unaware how the 35 MPH speed was selected. We assume it was through European usage. Since motor vehicles today normally operate at 35 MPH or above in urban areas and because tire noise usually predominates at speeds of 50 MPH and over, a more representative and technically valid change point is 50 MPH.

---

[1] Testimony before the U.S. Environmental Protection Agency, Office of Noise Abatement and Control. Dr. Alvin F. Meyer, Director, presiding, Washington. D.C., February 20, 1975.

3. *Noise Rule for Buses*—A separate noise control rule is needed for new buses. It should not be based upon GVWR or engine type, but upon design usage. For example, buses designed primarily for urban use would need to meet lower standards than those designed for over-the-road routes.

4. *Tire Noise Standards*—Purely on an empirical basis it is possible to determine that tire noise usually dominates truck and bus noise at normal highway speeds, e.g., over 50 MPH. A parallel regulatory program is needed for tire design for noise. It is useless for enforcement purposes to reduce sources controlled by the vehicle manufacturer when tires—beyond his control—dominate the noise at the higher speeds.

NOISE appreciates the acknowledgement by EPA that although State and local governments may not adopt regulations different than the Federal, they are not precluded from adopting controls on environmental noise through licensing and the restriction of use, operation or movement, etc.

We wish to express particular approval for the inclusion in the proposed regulations of labeling provision. This realy available information is essential for State and local enforcement officials who must be relied upon to police noise source limits. We also appreciate the non-degradation features these regulations whereby specified maintenance and recording by the operators to avoid in-use deterioration. We do not believe it possible or equitable to require manufacturers to retain after market responsibility for noise control.

Projected Truck Population

Taking into account the increasing shortage of petroleum fuel, a declining birthrate, larger and heavier trucks and other factors, it is probably error to project the number of heavy duty trucks to increase at an annual rate of 4.3%. Thus, the extrapolated total costs for Model 3–1983 limits need not be so great. Further, with increased awareness of environmental noise and measures available to control it, quieter trucks will enjoy greater freedom of operation as more and more local jurisdictions impose noise operating restrictions.

Uniformity of Standards

It is manifestly illegal as well as unfair to fail to regulate such public interest factors as safety, noise and exhaust emissions, etc. Some manufacturers and operators will automatically apply the best available technology to achieve or even surpass proposed or actual standards. Others, certainly a minority, will try to avoid the application of technology in order to gain a temporary or short term cost advantage. This should not be permitted and is the purpose of regulation vs. voluntary compliance so often relied upon to date.

Since many foreign countries have already adopted strict noise standards for trucks, buses and construction equipment, the sooner our industry has the benefit of a uniform standard against which to compete, the better its products will be received in foreign, as well as domestic markets.

One recommendation strongly advanced recently in behalf of U.S. light aircraft manufacturers which may also be applicable to motor vehicles, air compressors, etc. is the desirability of a uniform international noise standard. EPA could do a great service for U.S. industry by working for establishment of uniform international noise and exhaust emission standards for a variety of products.

Summary

NOISE strongly supports the proposed regulations. It is clear there is only one way to keep these industries equally competitive and still reduce noise and other unwanted social contaminants and that is by *regulation*. It is manifestly unwise, unfair and illegal to continue to rely upon "volunteerism" to obtain optimum uniform social benefits.

Thank you.

STATEMENT OF THE NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT ON THE EPA "RECOMMENDED NOTICE OF PROPOSED RULEMAKING ON NOISE ABATEMENT MINIMUM ALTITUDES WITHIN TERMINAL AREAS: TURBO-JET POWERED AIRPLANES (FAA NOTICE NO. 74–40)

In hearings before the Federal Aviation Administration, U.S. Department of Transportation, pursuant to Section 7 of the Noise Control Act of 1972 (P.L. 92–574), Washington, D.C., 5 March 1975.

Mr. Chairman, on behalf of more than sixteen million people who are estimated by EPA to be exposed daily to excessive levels of noise from aircraft, we appreciate this opportunity to express our views.

My name is Lloyd Hinton. I serve as staff to the National Organization to Insure a Sound-Controlled Environment. NOISE was established in 1969 by local government elected officials who had become deeply frustrated with the lack of progress in regulating the noise from aircraft impacting their communities.

Today, our purpose is both to encourage and to coerce the FAA to act in due haste to implement the regulation for minimum altitudes proposed by the EPA. This regulation will not only provide immediate tangible benefits in terms of reduced noise for millions of people living beneath airport approach flight paths but improved safety. NOISE believes the proposed rule should have been adopted years ago—with the introduction of turbojet aircraft—for safety reasons alone.

We had hoped that unlike the conflict in opinion between EPA and FAA with respect to the regulation for controlling noise from small propeller driven airplanes (FAA Notice No. 74-39), the proposed minimum altitude rule would not be controversial. We believe everyone benefits from the improved safety and noise relief at absolute minimum cost.

During Monday's hearing on the propeller rule we observed the regulated industry support for the FAA version. As we testified then, we have reason to believe the rule as promulgated resulted from industry initiatives. The typical posture of the FAA demonstrated most recently in the rule on propeller driven aircraft, for protecting aviation at the expense of the general public including, in this case, the owners and operators of airports, was never made more clear.

We had thought the situation with regard to minimum altitudes would be different because every party would benefit at little or no cost. We thought the timeliness of EPA's submittal to FAA—only five days after the tragic loss of TWA #514 was fortuitous. Our reaction—can anyone including FAA propagandists maintain the fiction that the so-called "keep 'em high" program (AC 90-59) is adequate for any purpose?

At the risk of stepping on a grave because we must benefit by past mistakes, I will discuss TWA #514 today. According to press accounts, #514 was given clearance to commence approach to final (or commence final approach—I am unsure) while still some 45 miles from Dulles. Even if Captain Brock had maintained terrain clearance minimums for safety of flight purposes, he could legally have descended to 1800 feet MSL after passing Round Hill intersection some 23 miles from Dulles. With Dulles having a field elevation of 313 feet, the minimum altitude over the ground is only 1487 feet . . . Hardly keeping 'em high. This situation is the rule rather than the exception across the country.

We know of no glideslope intercept altitude raised or other ATC changes resulting in noise benefits through the "keep 'em high" program.

Unaccountably, EPA's excellent project report accompanying the proposed rule does not reference The Boeing Company Report, "Effects of Aircraft Operation on Community Noise," dated June 1971. Boeing recommends a 3000 foot AFL interceptor together with other procedural innovations concluding that:

"Significant reductions in community noise can be attained through early adoption of readily available regulatory and procedural changes in the vicinity of airports. Such changes can be made at little cost, would require no particular increase in pilot skill or pilot workload, and are not considered to have any effect on safety."

Boeing recommended that:

"Applicable air regulations such as FAR Part 36 be modified such that *encouragement* and *incentive* be given to noise abatement through operating procedures. This should be an *inherent* part of the overall effort to reduce community annoyance." (Emphasis supplied.)

NOTE: ATA representatives have stated repeatedly the airlines do not object to the regulation of flight procedures for noise abatement.

NOISE strongly endorses Boeing's proposals. In fact, NOISE named Boeing for its annual award in 1974 for contribution to the cause of aircraft noise abatement. A copy of The Boeing Co. Report is attached with the request that it be made part of this testimony for the record. We are hopeful there will be no further recrimination against Boeing for making such data public.

What is the situation with regard to the regulation of aircraft operation for noise today, March 5, 1975. Nothing!! Not one single regulatory action is in effect providing "present" relief as mandated by the Aircraft Noise Certification Act of 1968!!! We do have FAR Part 36 which merely placed numbers on noise levels

predicted by the manufacturers. At least two aircraft certificated under Part 36, the DC-10 and L-1011, achieved significantly lower levels than required for certification.

What about new production aircraft of older type designs? Well, Boeing at least had been producing aircraft which met the rule with the aid of a large loop hole or two. How, for example, do JT8D engined aircraft manage the take off noise requirements? With a large thrust cutback of course. Does the FAA require that the noise benefit of cutback be provided in routine service? No! In fact, acquiescing as usual to industry desires, the FAA published in January 1974, AC 92-39, recommending that no thrust cutback be utilized.

In the "Draft Environmental Impact Statement for Civil Airplane Fleet Noise Requirements," dated December 1974, FAA data (Figures III-1 and III-2) indicate a reduction of 39% in the area of 40 NEF and 37% of 30 NEF is achieved with the thrust cutback permitted under Part 36. This impressive benefit is reportedly available at zero program cost.

When is the implementation of thrust cutback anticipated? Not until 1978! Obviously, AC 92-39 would have to be canceled. NOISE considers this situation evidence of malfeasance in view of the demonstrable safety and cost-effectiveness of such a measure.

In July 1962, an FAA spokesman made the following statement in prepared testimony before the Investigations Subcommittee of the Committee on Interstate and Foreign Commerce on the subject of controlling aircraft noise:

"Pursuant to its authority to issue air traffic rules, the Agency has promulgated a national rule setting forth traffic patterns, approach and takeoff procedures and provisions requiring that preferential runway procedures developed for specific airports for noise abatement purposes be used by all pilots unless safety considerations are overriding."

State there was no such "national rule" promulgated in 1962 or to-date, it can only be assumed that the FAA intended Congress to believe there was such a rule providing for uniform national benefits.

Last December, we witnessed the same chairman of the 1942 Subcommittee on Investigations express public criticism of the FAA for deficiencies in the regulation of safety. While NOISE concurs in the criticism of safety deficiencies, we find FAA performance for noise control even more dismal.

Some of you may wonder why I appear to be digressing from the nominal subject of minimum altitudes. My comments are addressed to the entire non-regulatory scheme for noise control as employed by the FAA. We believe this is an inept effort to protect industry clients through the subversion of statutory mandates. Also, these comments are more relative to minimum altitude regulation for noise than the propaganda show on the wonders of general aviation to which we were subjected for over 30 minutes during the hearing Monday on propeller driven airplanes. Indeed, I was so annoyed by the obvious rigging of the hearing, I rewrote this statement. I am considering making a formal complaint against what may well be collusion between the government and regulated industry. In March 1971, FAA concluded an in-house "Field Evaluation of 3000 Foot Glideslope Intercept Program" which was not made public 'til one year later. Here are some findings:

1. "Significant noise benefits on the order of 9 dB are attained by requiring turbojet aircraft to remain at 3000 feet AGL versus 1500 feet AGL while on radar vector to the ILS." (Note: Boeing tests at Dallas and JFK showed comparable benefits.)

2. "Raising of the glideslope to the maximum angle consistent with safety would reduce the turn-on area and probably eliminate some of the pilot complaints." (Note: glideslope used was 2.80°.)

3. Zero (0) reduction in practical annual capacity.

4. $3.13 additional direct cost per flight.

Perhaps the controlling argument contained in the report, one advanced by the airlines, is:

"In the airlines' view the 3000 foot ILS intercept procedure is undesirable and should not be adopted."

This reminds me of the long "learning curve" time required for the airlines to begin using less than maximum installed landing flaps. This curve has no relationship to pilot competency or safety, only management inceutive. In the absence of regulation, it first becomes necessary to prove to airline management that safety will be enhanced and costs reduced. If the technique also reduces noise, it's a tertiary benefit. Today, Boeing, a longtime advocate of maximum flaps, refers to "normal" flaps as 10 or 15 degrees less than maximum. Where is the FAA in securing such benefits. Nowhere !!!

With the possible exception of takeoff thrust cutback, consideration of measures available for noise abatement shows the 3000 foot minimum altitude glideslope intercept to be the least difficult, costly or controversial. We are hopeful—but not reliant—that this view will be shared by industry representatives.

We suspect EPA submitted this rule among its initial proposals to FAA because of a) its presumed lack of controversy, and b) the need for at least a 3000 foot intercept for execution of virtually any noise abatement approach procedure. The FAA is fond of proclaiming it has "implemented" procedures for noise abatement. Actually, in the absence of formal regulatory action, it has implemented nothing other than at Washington-National where the users agree "voluntarily" to restrict their schedules if they wish to continue operating.

Such ambiguous statements were included in Administrator Butterfield's testimony last May before the Senate Commerce Committee. Keep 'em high, get 'em high quicker and reduced flaps were each described as "implemented." Since these procedures (?) are not regulated and industry compliance varies widely from one operator and pilot to another, by what criteria does FAA claim implementation? The desired connotation of such statements is that regulations per se are in effect and are providing universal benefits.

It has been suggested that NOISE errs in continuing to seek FAA implementation of regulations for noise control. Presumably FAA regulations—witness the propeller driven aircraft—would be so bad they would constitute legalization of noise pollution. Further, that once procedural regulations are promulgated—no matter whether effective, we could no longer claim a dearth of regulatory action. For example, should FAA adopt a takeoff rule incorporating AC 92-39, Northwest would be forced to abandon its optimized noise abatement takeoff incorporating a large thrust cutback. Thus, optimum operators would be forced to join the lowest common denominators.

Whatever the risk, from a long term strategy standpoint, NOISE is committed to seeking every available noise reduction on an *urgent* basis.

Experience since 1952, when the report of the President's Airport Commission, "The Airport and Its Neighbors" was submitted to President Truman, indicates that the CAA, the FAA and the FAA/DOT are both incompetent and lack incentive to handle the issues involved in the management of our air transport system.

We are convinced the FAA would help itself as well as its industry clients by adopting the EPA recommendations for noise control en toto or virtually so. We believe the FAA is now in default of the law for its failure to act in partnership with EPA in the preparation and promulgation of regulatory proposals. We observed the FAA adopted an adversary role towards EPA following enactment of the Noise Control Act. FAA continues to maintain this role despite testimony before Congress to the contrary.

We believe publication of draft and/or final environmental impact statements prior to noise control rulemaking is a delay tactic. While provided for in a proposed retrofit rule an EIS was not seen for the propeller aircraft rule.

As submitted, EPA's proposed rule for minimum altitudes is valid in our judgment for both safety and noise purposes. While we do not feel it can seriously be faulted on its merits, we anticipate that some group, attempting to maintain status quo, will not "like" it or that it will create "problems" and cause "delays," etc. Given the benefits, we believe the rule is worth some penalty although we doubt any would result from its systematic implementation.

In vivid contrast to EPA, the FAA has no aircraft noise control program—comprehensive or otherwise. It has developed and published no regulatory scheme or matrix with estimated promulgation dates, etc. The FAA noise control program is a model of incompetency and noncontrol. Fortunately, Congress has also recognized this deficiency.

The FAA would benefit itself and the aviation community by embracing EPA's program including airport certification for noise. Only through such a comprehensive strategy can the issues be resolved. The holding tactic of delay long advocated by ATA has placed the FAA in a most uncomfortable position where it always wears the black hat with the Congress and the public.

The only "out" for the FAA is through true partnership with EPA as envisioned in the Noise Control Act and with NASA as always intended by Congress.

The essential first step toward a real partnership—should the FAA wish to improve the situation—is immediate—urgent issuance of an NPRM (not ANPRM) incorporating EPA's minimum altitude rule with the stated intention of promulgating a rule in 90 days.

Delay is no longer acceptable.

Thank you.

NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT,
Washington, D.C., March 12, 1975.

Re Recommended Notice of Proposed Rulemaking on Civil Subsonic Turbojet Engine-Powered Airplanes Noise Retrofit Requirements.

OFFICE OF THE CHIEF COUNSEL,
Federal Aviation Administration,
Attention: Rules Docket, GC-24,
Washington, D.C.

OFFICE OF NOISE CONTROL PROGRAMS AW-571,
U.S. Environmental Protection Agency,
Attention: Docket No. ONAC 74-4,
Washington, D.C.

For the Record: The National Organization to Insure a Sound-controlled Environment is composed of municipalities, counties and individuals living in proximity to major civil airports who are exposed to excessive levels of aircraft noise. NOISE was established in 1969 by local government elected officials who had become impatient with the long and unreasonable delays in abating the aircraft noise impacting their communities.

NOISE believes there is an inherent conflict through which the FAA/DOT has been unable to regulate noise from aircraft. Its dual responsibility for promoting a healthy air transport industry while also protecting the public from the consequences of excessive noise from aircraft operations is perceived as an unreasonable constraint upon the former.

Recognizing the existence of such a conflict in requirements Congress, in enacting the Noise Control Act of 1972, directed EPA to investigate and report on the "adequacy" of FAA controls on aircraft noise. Congress further directed that should such controls be found to be inadequate, EPA must submit proposed regulatory actions to supplement and/or correct them. In the instant case, EPA is simply proposing that FAA implement its own regulatory proposal, NPRM 74-14, with minimum changes. NPRM 74-14 resulted from a long series of FAA investigations from which it can be inferred that issues of economic reasonableness, technical practicality and safety (ERTPS), as intended by Congress, were resolved.

The Report of the Committee on Science and Astronautics, U.S. House of Representatives, dated December 1974, was based on exhaustive hearings over five (5) days during December 1973 and July 1974. Based on FAA testimony, the committee assumed the FAA favored immediate implementation of SAM retrofit (p. 31). The following "Alternatives and Recommendations" as concluded by the committee (p. 32) is reproduced:

From consideration of these issues, the following alternatives were identified by the Subcommittee:

1. Endorse adoption of the SAM retrofit for the JT-3D and JT-8D aircraft, and consider REFAN technology for application in new production aircraft at an appropriate time.

2. Endorse rulemaking which would require a SAM retrofit for JT-3D aircraft but would delay any final decision on the JT-8D aircraft pending results of the REFAN ground and flight tests.

The first alternative would depart from the Subcommittee's previous position of strongly urging use of the best technology even if some delay were required (i.e. waiting for JT-8D REFAN technology). Recommending this rulemaking approach would lead to noise reductions at a somewhat earlier time than the second alternative. Also, the first alternative is the less costly ($1 billion compared to $5 billion). It is essential that this approach be closely connected to adoption of standardized thrust cutback operating procedures during takeoff which provide the greatest possible noise relief consistent with safe operations.

The second alternative would provide for an early start to quieting the most noisy aircraft—the JT-3D (DC-8, 707)—with the SAM modification, while allowing for incorporation of the refan technology in a retrofit of the JT-8D aircraft at a later date. This alternative does offer a more promising approach to accomplishing long term noise reduction goals stated in the CARD Study. The testimony before the Subcommittee indicated that while SAM for the JT-8D gives some relief to the airport neighbor, REFAN gives greater relief—at a significantly greater cost.

After weighing the testimony and the data provided to the Subcommittee it was concluded that alternative I would be recommended to the FAA. In the end, earlier relief provided by the SAM retrofit and the high cost of a REFAN retrofit were the deciding factors.

NASA is encouraged to complete the REFAN technology program. If the results turn out as projected, the FAA should consider subsequent rulemaking which would lead to incorporation of the technology in aircraft produced after some future date.

On May 7, 1973, the FAA publicly demonstrated, through flight demonstration at Dulles Airport, the technology, effectiveness and safety of a B-707 refitted with SAM nacelles. A year followed during which the promulgation of a rule requiring SAM retrofit was believed eminent. On May 15, 1974, with public confidence again waning, Administrator Butterfield personally expressed strong support for SAM for both JT3D and JT8D engined aircraft in his testimony before the Aviation Subcommittee of the Senate Committee on Commerce. Once again, we began a patient wait for Mr. Butterfield to move the FAA to action as he had promised and which we continue to believe he personally intended. Where is the rule?

Sadly, we now believe the Administration has no intention of accomplishing more than DELAY in implementing an acoustic retrofit rule—even one prepared by itself—or for that matter any other regulatory measure providing "present" relief from aircraft noise.

The issue is no longer the ERTPS of various regulatory measures for the control of aircraft noise impact on people on the ground, but the existence of requisite institutional/organizational incentive on the part of FAA/DOT to comply with statutory mandates as well as humanitarian considerations.

Based upon our observation of FAA reaction to EPA proposed regulations for smaller propeller driven airplanes (Notice No. 74-39) and minimum altitudes in terminal areas (Notice No. 74-40), we are no longer hopeful FAA will give more than lip service to its own or EPA's proposed rules for noise control, notwithstanding Administrator Butterfield's personal desires.

FAA has had the matter of acoustic retrofit before it for at least eight years. It appears probable that current economic and energy availability conditions will be used by industry and concurred in by FAA/DOT as an excuse not to regulate this or any other control on aircraft noise. The public and Congress may well base their prediction of FAA failure to regulate for SAM upon anticipated industry arguments to this docket and in testimony before scheduled hearings March 18 and 19, 1975. We anticipate that the views of the advocates of the public interest, including the Congress, EPA, NASA, NOISE and others, regardless of their reasonableness, will be ignored.

NOISE believes that so long as there exists a spark of incentive for fulfillment of statutory responsibility we must pursue it. Accordingly, we urge the FAA/DOT to adopt its own regulatory proposal, as amended by EPA's logical recommendations, immediately! Industry is obviously forewarned of the requirement and adequate financing schemes have been advanced by FAA if not the CAB. Failure to act will further subject FAA/DOT to public and Congressional criticism which must result in fundamental changes to the present aviation regulatory structure.

EPA seeks little more here than adoption of FAA NPRM 74-14. Having come so far in responding to the statutory mandate that it provides relief from aircraft noise, the FAA has committed itself to act rather than to continue to study.

LLOYD HINTON,
Legislative and Technical Consultant.

Putting All Our Noise Technology to Work

By ROY P. JACKSON
NASA Office of Aeronautics and Space Technology

We have the technology in hand or under development to quiet old, new and future transports, and we should make sure everyone uses it all the fair way—by regulation

In September 1972 the Senate Committee on Public Works, reporting on the Environmental Noise Control Act of 1972, observed that "excessive noise from aircraft has been identified as the major noise problem for many Americans." Every government, industry, and public committee that has studied the air-transportation industry in the last 15 years has come to a similar conclusion.

Today, the public knows it can bring considerable pressure to bear on the airports through collective actions of civic organizations, and increased use of litigation. We see the public applying pressure. Congress shows great concern. Frequent entries in the Congressional Record display an increasing impatience with the lack of progress toward solving this serious national problem. Passage of the Noise Control Act of 1972 itself manifested current Congressional feeling.

How did we get into this situation? Where are we headed? In 1960, the U.S. jet-aircraft fleet numbered about ninety 707s and DC-8s. Although every one of these aircraft made a lot of noise by today's standards, they took off or landed very infrequently at any one airport. If we had in 1960 calculated the area within a Noise Exposure Factor (NEF) 30 contour about a "busy" 1960 jet airport, we would have found it in the neighborhood of 4-5 sq mi. This certainly constituted a noise problem for a few people in 1960, but not for many.

But we did not calculate NEF contours in 1960, because we did not understand. We sloughed off a now-and-then noisy takeoff as a sign of progress. Assume we had extrapolated to today's 25-fold growth of the domestic fleet. Assume we had had today's background in community response. We could then have predicted that by 1973 the area of the NEF 30 contour at a busy airport would have grown by a factor of almost 15, with an area of about 60 sq mi. If we had also included a reasonable estimate of population growth, we would have seen that millions of citizens would be living within those boundaries.

Even if we had been wise enough to include in our prediction the somewhat quieter fanjet aircraft developed in the mid-60s, and incorporated into the fleet in substantial numbers, we still would have seen that by 1973 the nation would be facing a critical noise problem.

In fact, the most recent calculations, based on the current fleet mix, tell us that the NEF 30 areas average about 80 sq mi. at six of the nation's largest airports. A total of over one and a half million people in these six communities live within the NEF 30 contours.

If we had made such a prediction in 1960, and reasonable and responsible people had concerned themselves with such predictions, we would be much further along than we are today in reducing aircraft noise.

Today we understand better the importance of community exposure parameters. We know how to calculate noise generation, acoustic attenuation, noise propagation, noise footprints, people

ROY P. JACKSON (AF) headed OAST as Associate Administrator from 1970 until last Oct. when he returned to the Northrop Corp. as corporate VP, program management. He had left Northrop a VP and assistant general manager of the Aircraft Div. and had previously been VP and assistant general manager of the Northrop Space Laboratories. Jackson began his career at NASA Ames after receiving an ABME from Stanford in 1941.

response to noise, NEF contoors, and the number of people exposed. We have a good data base for predicting the growth of air-transportation demand and the nomber of sizes of airports, like the one we had in 1960, but chose to ignore. We have census information and population trends in the vicinities of major airports. Using all of the tools, we can make some realistic estimates about future noise impact.

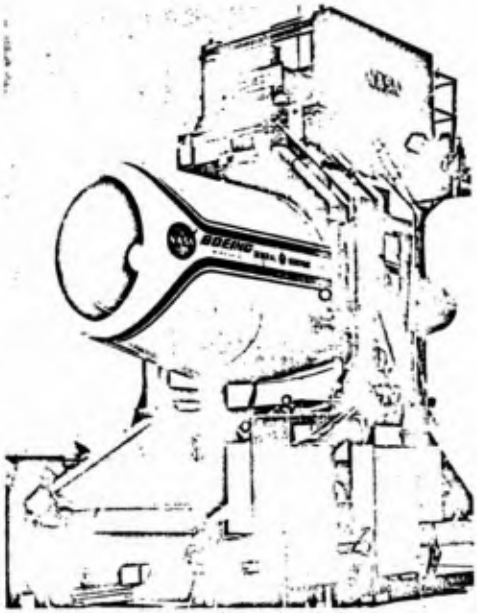
DOT and NASA have this work well underway in a 23-airport analysis being conducted by their Joint Office of Noise Abatement. I will try to make a few useful observations without such a detailed analysis in hand.

The 30-NEF contoor corresponds to the 90-EPNdB noise level of a typical aircraft operation out of a typically busy major airport having 600 operations per day. The quietest aircraft in the current jet transport fleet, the new three-engine wide-body aircraft, have 90 EPNdB footprint areas of about 8 sq mi. If we project an entire fleet of aircraft with this noise level flying into the late 1980s—an optimistic assumption because some noisier standard bodies will still be around—and assume the number of aircraft operations double by that time, we arrive at an NEF 30 contour enclosing nearly 15 sq mi. Since the average hub airport occupies just under 5 sq mi. and the footprint has a long, narrow shape, a high noise level will extend over a sobstantial area outside the airport boundaries.

On the other hand, if we could reduce the 90-EPNdB footprint area of aircraft operating from busy airports in the late 1980s from 8 sq mi. to only 2 sq mi., the 30 NEF contour area at those busy airports would shrink to less than 5 sq mi., the area of the average airport (F-2). *In my judgment, the U.S. air system must commit itself to attaining a 2-sq-mi. footprint in order to exploit its growth opportunities unconstrained.*

The question then arises: "Do we have the necessary technology to reduce 90 EPNdB footprints to 2 sq mi.?" The answer is, "Yes," or "Essentially yes." By essentially yes, I mean that we can reach the noise levels needed, but at some penalty in aircraft engine performance and some increase in direct operating cost. The exact penalties depend on the actual aircraft application. I will try to explain my answer.

Last year NASA completed the first phase of what we titled the Quiet Engine Program. The Quiet Engine Program aimed at demonstrating the technology, in a complete engine, for achieving noise levels 15-20 EPNdB below the noise levels of the long-range, four-engine standard bodies, under comparable operating conditions. All available noise reduction technology went into the full-scale



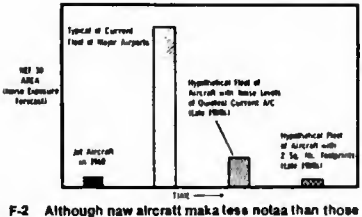
F-1 Experimental engine with a 2-sq mi. footprint for the 90 EPNdB contour in practical use has been demonstrated in the NASA Quiet Engine Program.

experimental engine (F-1) designed, bulit, and tested by NASA and its contractors.

In runs at Lewis last year, the *experimental* engine fully reached its technology noise goals. The baseline Quiet Engine without the acoustic nacelle ran 20 EPNdB quieter than a DC-8 at both takeoff and approach. Adding the acoustic nacelle quieted it a further 8 EPNdB. In all, an engine-nacelle-aircraft combination projected from that experimental engine technology would better the FAR-36 requirements for a 707-sized airplane by 15 EPNdB. Such an aircraft would have a 90-EPNdB footprint area of 2 sq mi.

The NASA Quiet Engine was only an experimental engine to demonstrate technology, and would not be appropriate for aircraft use. To reduce program cost, the Quiet Engine used an existing CF-6 engine core. A practical Quiet Engine would need a core engine specifically designed for its application.

Furthermore, extensive nacelle acoustic treatment imposes significant performance penalties. Increased nacelle weight and increased anti-icing constitute two obvious penalties. Acoustic treatment significantly reduces aerodynamic performance to push up cruise SFC of a real world engine an estimated 6%, and decrease



F-2 Although new aircraft make less noise than those of 1960, the growth of traffic has made the airport neighborhood noise. NASA's goal of developing the technology for an aircraft with a 2-sq-mi. 90 EPNdB footprint points toward shrinking the NEF 30 area around an airport to less than 5 sq mi.

thrust at takeoff by 5%.

Further work by NASA seeks to lower weight and raise performance. It ranges from research into the fundamental causes of noise generation to practical technology for low-noise machinery design and noise suppression. Lab tests of "near-sonic" inlets, low-noise fan design, noise suppression, and shielding guide and support on-going full-scale tests of the Quiet Engine.

We hope to start in FY75 an important next step, a Wide-Body Aircraft Acoustic Nacelle Program using composite materials. This technology program will reduce wide-body aircraft footprints by 30% to about 5 sq mi. without increasing nacelle weight. The technology gained will also help the NASA Advanced Transport Technology Program reach its goal of making possible future high-performance commercial-transport aircraft with footprint areas less than 2 sq mi.

Besides medium- and long-haul aircraft which take off and land in a conventional way, the future fleet will need short-haul, powered-lift aircraft to reduce congestion around our major cities. These aircraft will fly at much lower speeds in the terminal area, and require much shorter runways than conventional aircraft, but will operate from airports in or very close to highly populated areas.

Because powered-lift aircraft will provide service near concentrations of people, they will have to adhere to environmental requirements even more severe than for conventional aircraft (F-3). They must have extremely quiet and pollution-free engines. Regulations have not established noise specs for such aircraft, but NASA has selected a technology target of 95 EPNdB on a 500-ft sideline for a 150-passenger size aircraft toward which to direct our research. This noise level betters by almost 13 EPNdB that of the NASA Quiet Engine at the same distance, and by nearly 30 EPNdB that required by FAR-36. The corresponding 90 EPNdB footprint area covers well under 1 sq mi. The additional noise sources present on powered-lift aircraft add to the already substantial effort needed to reach this goal.

To study the noise problems and to develop the technology needed for powered-lift propulsion, NASA has undertaken a new experimental engine program with the acronym QCSEE—Quiet Clean Short-Haul Experimental Engine.

QCSEE aims specifically at very high bypass ratio engines for under-the-wing and over-the-wing externally blown flaps, but some of the technology will apply to internally blown flaps as well. The program will develop technology including low pressure ratio fans for low noise, variable pitch fans for rapid thrust modulation and reversing, composite material fan blades and composite material nacelles, integrated electronic controls, clean combustors, and geared fan drives.

A great deal of the technology will prove useful for a military short-haul engine—variable pitch fans, lightweight composite nacelles, and integrated electronic controls. For this reason, we have invited the Air Force to join with us in conducting the program.

The installed noise goals for the QCSEE experimental engine fit in with the target of a 90 EPNdB area well under 1 sq mi. for a four-engine medium-size, short-haul transport. The emission goals surpass the recently established EPA standards. Work on the engine design will get underway shortly. The first propulsion-system test will begin in 1976, and the contractor will complete the test program in 1977, and deliver two experimental engines to NASA for further research on propulsive-lift concepts.

Attaining commercial powered-lift, short-haul aircraft depends principally on industry developing a quiet propulsive system, but also awaits flight research on basic aircraft-handling qualities, engine-out control, and other operating needs, and correlating flight data with that from wind tunnels and simulators.

NASA plans a three-fold flight research program. The Air Force will join us in the AMST Program to obtain propulsive-lift flight data on under- and over-the-wing externally-blown flap configurations. By means of a low-cost research aircraft now in the planning stage, we will obtain quiet propulsive-lift flight research data on swept-wing advanced propulsive configurations. And we will mount on a large-scale wind-tunnel model selected flightweight components as may be advisible to gather research data on other advanced propulsive-lift configurations.

From this program will come data to guide industry and FAA as they establish flight-operations procedures, noise-footprint regulations,

and certification criteria for handling qualities.

All the foregoing technology aims toward new aircraft, but the public will not wait until new aircraft replace old ones for relief from noise.

Even with wide bodies on line the standard body aircraft today dominate the noise picture at every major airport. Without changes to the standard-body aircraft to reduce their noise, there will not come any substantial relief from noise for airport neighbors during the years these aircraft will dominate. Furthermore, airlines expect the usable life of these standard-body aircraft to last longer than they onec did, so these aircraft could dominate the fleet noise level for another decade or longer.

Acoustic treatment alone ean quiet standard-body aircraft to present FAR-36 levels. NASA demonstrated so in 1969 at the technology level with flight tests of aircraft equipped with experimental acoustic naecelles. More recently the FAA did so with flight tests of aircraft equipped with certifiable hardware. To quiet the planes significantly below FAR-36 calls for changing the engine itself. Thus the Refan Program.

The NASA Refan Program began in August 1972 as a major new initiative to design, build, and test standard-body engine modifications. Reducing noise a major amount will take cutting both jet-exhaust and fan noise. New and larger single-stage fans designed for both the JT3D and JT8D engines substantially increase mass flow and decrease core jet velocity. Increased spacing of fan blade rows, the use of fewer stator than rotor blades, and longer and acoustically tested fan inlet and exhaust ducts further reduce noise.

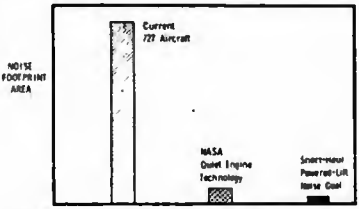
A 707 aircraft equipped with refanned engines with naecelle acoustic treatment has a 90-EPNdB footprint only 10% as large as an unmodified 707, and one-third as large or less as a 707 equipped with standard engines with acoustic nacelles. Similarly, the refanned 727 has a footprint area 12% of the standard one and about 20% that for acoustic nacelles with standard engines.

The areas for refanned 727s and 707s cover about 4 and 6 sq mi., respectively. While refanning would make the standard-body aircraft among the quietest in the world, it would not meet the suggested long-range goal of 2-sq mi. footprints. To do so would require completely new engines. Clearly, however, as an interim measure, refanned standard bodies would provide substantial relief.

The refanned JT8D engine will run in April 1974, and fly with an acoustic nacelle in February 1975. If industry were to move toward certification without delay, production of these refanned engines and acoustic nacelles could likely begin early in 1976.

A three-engine refan retrofit would cost an estimated $1.7 million and a two-engine refan retrofit, almost $1.0 million. Because of these costs airlines will not voluntarily adopt the refanned engioes for retrofit. Nacelle treatment alone on standard-body aircraft can satisfy the fleet-noise rule presently proposed. Thus, refanned engines, despite their potential, may appear only on new production aircraft, which will realize only some of their possible benefit.

How can all of the economically viable and usable technology being developed to reduce noise find its way into commercial use, and give the nation's air system the quieter aircraft annoyed citizens desire? This question is part technical, part economic, part sociological, and part political. In formulating an answer we can make certain assumptions. First of all, we can safely assume that



F-3 Short-haul powered-lift aircraft will operate closer to populated areas, thus development must aim at making them quieter than standard transports.

no airline will step out individually to make major noise reductions when substantial economic penalties accompany them. Likewise, no one engine manufacturer will independently go all the way in engine-noise reduction because thrust, weight, and SFC play a crucial role in his competition with others. Furthermore, no aircraft manufacturer will individually overcompete in reducing noise because he will pay for it in direct operating cost.

It is clear to me that there is only one way to keep the industry equally competitive and still reduce noise as much as we want as fast as we can, and that is by regulation.

The regulations must be timely and precede the commitment to a new design by industry. And the regulations must be bold in demanding noise levels on the forward edge of technology to force technologists to fashion economically acceptable solutions.

Only by taking these measures do I see a sound solution to aircraft noise. ■

NATIONAL ORGANIZATION TO INSURE A SOUND-CONTROLLED ENVIRONMENT,
Washington, D.C., March 10, 1975.

NOISE LEGISLATIVE PROGRAM

The attached legislative proposals have been adopted by the directors of NOISE at their meeting February 8, 1975. Since 1969, NOISE has become increasingly aware of the need for correcting existing institutional/organizational arrangements among federal agencies charged with regulating the aviation industry.

Earlier, NOISE proposed and assisted in obtaining legislation culminating in the Noise Control Act of 1972, providing EPA with a statutory role in the abatement of environmental noise pollution including that caused by aircraft. Now, after more than two years' experience under the NCA, remaining institutional conflicts and inherent inadequacies have become more clear.

The attached broad outline for Congressional action is designed to correct current institutional deficiences by reassigning and/or strengthening existing agencies' responsibility for acting in the public interest where each is considered to have the requisite incentive and competence.

Of course numerous details need to be resolved. Also, appropriate sponsors from among interested House and Senate members will be sought to introduce a portion of this legislation during the 94th Congress.

Writing on behalf of the Board of Directors of NOISE, I am,

LLOYD HINTON,
Legislative and Technical Consultant.

Attachment.

FEBRUARY 1975.

The National Organization to Insure a Sound-controlled Environment hereby adopts the following as policy and recommends that Federal legislation be enacted to accomplish the following:

1. Reorganize current statutory authority among Federal agencies respousible for the design and operation of the United States air transport system. Specifically:

A. Authorize and direct EPA to establish standards for noise and engine exhaust emissions in the atmosphere needed to protect the public health and welfare with an adequate margin of safety.

B. Authorize and direct the NASA to develop and demonstrate optimum aeronautical technology including certification for use thereof for safety, economic reasonableness, technical practicality including but not limited to energy conservation, all-weather operations capability, and noise and exhaust emissions abatement.

C. Authorize and direct the FAA to implement, through formal regulatory proceedings, the air transport system design elements as certified to it by the NASA.

D. Authorize and direct the CAB to account for the costs of noise and exhaust emissions abatement through fare adjustments in its economic regulation of air transport companies certificated by it.

Additional items needed to be included in this preliminary comprehensive legislation are:

a. Requirement for the timely (6–12 mos.) certification of airports both civil and military as to their noise impact on adjacent communities. This strategy was identified by EPA in its report to the Congress on the adequacy of FAA actions to control aircraft noise, dated July 27, 1973, as "the keystone" of a comprehensive solution to the problem of aircraft noise impact. Such noise certification must be based upon standards established by EPA and incorporating technology (ERTPS) as certificated by the NASA.

b. Requiring that as condition for the receipt of any grant of Federal aid funds for any purpose every airport supporting operations engaged in interstate commerce shall have obtained through purchase or cooperation with state and affected local government noise compatible zoning and other land use impact zone as identified by EPA.

c. Notwithstanding existence of ICAO or of other so-called International "standards" or voluntary compliance agreements, require that aircraft not meeting FAR Part 36 standards, amended as recommended by NASA, be retrofitted with sound absorption material (SAM) within five (5) years of date of enactment. Further, there shall be no weight operational use or other arbitrary limi-

tation on any civil turbo jet aircraft routinely operated in or to the United States so far as this acoustic retrofit requirement is concerned.

d. Require incorporation of REFAN technology in new production aircraft of older type designs utilizing the JT8D engine.

e. Provide for authorization of Federal funding, specifically that from the Airport Development Assistance Program (ADAP) for use in aircraft noise control programs including, but not limited to, acoustic retrofit, improved aircraft instrumentation/control equipment (both ground and airborne), building structural sound attenuation and local land use control and change. Land use costs would specifically include planning grants to state and local governments, participation in costs of land use changes including acquisition and resale in fee and the reimbursement of local governments for capitalized tax base losses, if any.

2. Authorize and direct the SAB to initiate, permit and require implementation of airline capacity agreements for the multiple purposes of noise reduction, energy conservation and economic efficiency for the industry and air transportation consumers.

3. Amend the NEPA to redefine "project" as including any change in airport or aircraft operations by the airport owner and/or operator.

4. Submittal of an annual report to the Congress by the FAA on its progress in implementing mandated (by Congress) and certified to it (by NASA) regulatory measures to control aircraft noise. The report will include description of regulatory measures including but not limited to the acoustic retrofit of civil turbojet aircraft optimized takeoff and approach flight procedures including introduction of new equipment and the certification of airports including cooperative land use control measures.

5. Establish Airport Noise Control Curfew Commissions to investigate and determine advisability of imposing night-time curfew at each local airport where noise constitutes a local problem. The costs of such commissions to be borne by each airport with such commissions being composed of publicly appointed representatives of affected local communities. While the airport management shall have membership and one vote, private industry may only supply advisors.

6. Enable local governmental units to serve as party plaintiff in class action suits seeking compensatory damages for the effects and impact of aircraft noise.

Mr. ROONEY. Tell me something about your organization, Mr. Hinton. How was it formed? When was it formed? How is it funded?

Obviously you are not having very much cooperation from Government agencies. I want to know a little something about your organization.

Mr. HINTON. I would like to point out that we believe that EPA, which in the area of proposing regulatory actions to the FAA, has done a magnificent job—as a matter of fact, at a board of directors meeting NOISE voted about 3 weeks ago to give its annual award to the Environmental Protection Agency, particularly in the person of Mr. William C. Sperry and the staff.

The organization was founded in 1969. The Mayor of Inglewood, Calif., contacted the county executive, Nassau County, N.Y., and said, "We both have a similar problem." As a matter of fact, they got together at a meeting in connection with the National League of Cities meeting. They said, "Let us form a national organization to try to do something about this because the action has to be in Washington."

Nassau County and the town of Hempstead had brought a suit against the FAA and the airlines operating in New York City. The city of Inglewood had brought a suit against the noise problem in Inglewood. It is east of the L.A. International Airport, all the approaches come over Inglewood.

Neither suit was successful and they thought they were wasting their time going through the courts. They thought they ought to spend some more time on the political route and with Congress.

At the present time we have about 40 municipal members, all of them with the exception of Nassau County and Minneapolis and St. Paul, are smaller communities adjacent to major airports. There are 13 or 14 small communities adjoining the O'Hare Airport that are members of NOISE. The city of Chicago is not.

We have the O'Hare NOISE chapter. A couple of small communities around the Louisville Airport are also members.

Mr. ROONEY. Who funds your organization?

Mr. HINTON. Municipal funds out of the dues structure.

Mr. ROONEY. You are the executive director here in Washington?

Mr. HINTON. Yes, sir. My own background: In 1964 to 1966 I was director of the noise abatement program at the L.A. International Airport. In 1966 to 1968 I was executive secretary of the National Aircraft Noise Abatement Council here in Washington, composed of all five primary industry associations concerned with the promotion of air commerce.

Mr. ROONEY. What measures could the FAA adopt in the vicinity of airports that would reduce noise and would be safe and not extremely costly to the industry?

Mr. HINTON. Mr. Chairman, if the FAA in its regulatory action would require that the airlines and business jet operators, too—we believe they should contribute as much as the airline operators—would require them all to use procedures such as Northwest Airlines is using today on both approach and departure, the magnitude of the problem would be reduced by 50 percent in terms of number of people exposed to excessive levels of noise.

Northwest Airlines has been using these procedures since 1971. It has reported on them extensively to the FAA. In June of last year the head of FAA's Office of Environmental Quality and chairman of the ATA Flight Operations Committee went to Northwest Airlines to try to persuade them to drop their procedure because it was at variance with what the other airlines wanted to do, which is incorporated in an advisory circular which the FAA issued and is one of those listed in this listing you received today.

If the truth were known, you couldn't make more noise if you were trying than if you used the method incorporated in the advisory circular, particularly with the JTJD aircraft engines which constitute over 75 percent of the operations in this country. The only way you can reduce the noise of that engine is pulling the power back, which the FAA allows the manufacturers to do in the certification process, but does not require the airlines to transfer that benefit to people in routine operations.

No safety problem at all, Mr. Chairman. That is a smoke-blowing exercise which has been going on for many years.

Mr. ROONEY. Mr. Schwartz.

Mr. SCHWARTZ. Did you say that Northwest Airlines has been using this procedure?

Mr. HINTON. Yes. This procedure is incorporated in the committee report of the Aeronautics and Technology Subcommittee, dated June 1971. I think Mr. Kovacs has it.

Mr. SCHWARTZ. Does Northwest Airlines have any worse record of safety than any other airlines?

Mr. HINTON. They have a better record, Mr. Schwartz.

Mr. SCHWARTZ. A better record?

Mr. HINTON. Yes. They also find the procedure enhances safety and results in significant reduction in fuel consumption.

Mr. ROONEY. How do they compare to Allegheny Airlines?

Mr. HINTON. I really don't know, Mr. Chairman. The other two airlines with which I am very much familiar as to their procedure for noise abatement are two intrastate carriers in California that operate out of Orange County, particularly Air California, PSA. I understand that Air West has adopted some similar procedures at the urging of the Orange County Airport management.

I have a report on that which I could make available to the staff.

Mr. ROONEY. Mr. Kovacs.

Mr. KOVACS. While we are on this subject of flight procedures and what the FAA is not doing, do the airport owners have any responsibility in regulating the use of property both within the airport and the urban land development around the airport?

Mr. HINTON. No, Mr. Kovacs. I am not a lawyer, but I happen to know, of course, they don't. They have no responsibility for the actual control of the urban development in the vicinity of the airport, although I think they could exercise moral persuasion as some airport operators have.

I know particularly Huntsville, Ala., since 1946, Wilma Garrett, the management of the airport in Fresno, Calif.—we can cite individual examples, but they have done this on their own.

The FAA has refused to provide noise exposure data meaningful for land-use development for noise compatibility. They refused to give it to HUD. I can cite examples of that.

Mr. KOVACS. What is HUD doing in this area?

Mr. HINTON. HUD has done a couple of things. One is they developed some noise exposure standards, cumulative noise standards, for where they will grant Federal Housing Administration loans. They designated high noise impact areas, areas where they will not give mortgage guarantees.

I think that is certainly a valuable tool. The Veterans' Administration has done the same thing, by the way. Each of these actions was taken independently of the FAA. I happen to know the people who are responsible for this program and know their views on the matter. But there is no coordinated overall program in our Government that ties in community planning, which contemplates—for example, FAA does not condition its airport development grants under the Federal Aid to Airports Act or the Airways Airport Development Act of 1970, does not condition them upon the granting of controlling urban development around the airport.

So, the two have been consistently working against each other, the airport attracts development, both commercial and noncommercial, residential development, which is incompatible with high noise levels.

Instead of providing the information to the public for legal reasons, we are concerned about legal liability. This information is not provided. There is no overall provision of noise exposure data, although it was recommended as early as the report of the President's Airport Commission to President Truman in 1952. That was one of their specific recommendations.

One of the members of that Commission—three-man commission—was the Administrator of the Civil Aeronautics Administration.

Nothing is new, Mr. Chairman. We have been through it all, report after report, the Card report, civil aviation research and development study, Project Horizon in 1971. We have them all.

The Aviation Advisory Commission report to the Congress and the President in 1972 said the same thing. We still don't have one single regulation governing the flight of aircraft and noise.

Mr. ROONEY. You have made some laudatory comments about EPA. How do you think it can be strengthened? Are they doing enough?

Mr. HINTON. Recently they have been. I would concur in Mr. Fox's statement yesterday when he criticized the publication of the interstate motor carrier regulations for existing vehicles.

Senator Muskie characterized that as a legalization of noise pollution. I think the new regulations coming out for new vehicles, the aircraft noise regulations are magnificent. I will submit to the committee our comments on the minimum altitude rule, in fact, the NOISE organization wrote to Administrator Train and expressed our deep support when we first saw it in December.

It is obvious that if that rule had been in effect, the TWA flight would not have hit the mountain.

Mr. ROONEY. I take it your organization doesn't have much of a rapport with the FAA agency.

Mr. HINTON. Well, last May we heard Administrator Butler's field testimony before the Aviation Subcommittee of the Commerce Committee. He strongly supported the SAM retrofit proposal. He said FAA was imminently planning on issuing a regulation requiring the SAM retrofit.

We supported him and told him so. I still believe he is personally committed to it. I don't know what has happened. I think it has gotten lost. The FAA has not come out with the SAM retrofit rule, although EPA has proposed it.

I think there are people in the FAA who would like to do some things unless the Congress makes the change, puts NASA in charge of the technology and relegates FAA to a role like the traffic cop on the corner, with no responsibility for developing the criteria, standards, procedures, techniques, or technology, whatever you want to call it. It is only responsible for enforcement.

I think it would do a fine job and I think in the long run they would like the divorcement from the technology end. FAA is an operating agency; it is composed of operations people, pilots like myself. It is not composed of technologists, scientists.

Mr. ROONEY. You heard Mr. Eyster being asked the question: Is there disagreement between the FAA and EPA? And his response was, I believe, yes, quite often.

How do you think they could resolve these differences?

Mr. HINTON. From the beginning the FAA has taken an adversary role, as I point out, and I could give you examples. I don't think there is any real way to resolve it. I think that everything that comes along, there is going to be a head-butting session.

FAA promulgated its final regulation for propeller-driven aircraft the same day there was published in the Federal Register, in the same Federal Register EPA's proposed regulation. EPA had proposed for a year significant changes to the FAA. FAA did not adopt one of them except to increase the measurement of overlight from four to six to taking measurements for certification.

I think that there is a natural partnership between, for example, aviation with NASA and EPA. I would hope that you would look into NASA's role here, because it can do a lot of good for the long-term benefit of aviation irrespective of the various committee jurisdictions.

Mr. ROONEY. You would want to turn all the jurisdiction that FAA has at the moment over to NASA? That is your solution to the problem?

Mr. HINTON. Well, sir, we don't want to destroy the natural objectivity, the scientific objectivity that NASA preserves. I think the Congress has to put the capital A into NASA, the aeronautics A back into it.

You remember the predecessor organization of NASA was the national advisory commission on aeronautics. We would not have the aeronautics in this country or the world if NASA had not done such a good job. If NASA has system design requirements and the reports to Congress and if Congress determines the priorities based on the information supplied by NASA, the costs, the benefits, and determines what should the FAA do and gives it a time deadline to do it, and Congress has a good working arm now in the Office of Technology Assessment, there is a natural working relationship there also.

But until this is done, we don't believe that FAA will ever make the necessary system changes. In a recent issue of Aviation Week in space technology discussion the effectiveness of FAA air controllers is challenged. It is very interesting. The same thing I am saying, but this is in terms of safety.

Talking about FAA resistance to making any changes, it is a built-in resistance. It does not seem to be one that personalities at the head are going to change.

Mr. ROONEY. Does that conclude your statement, Mr. Hinton?

Mr. HINTON. I did have a concluding statement, but I thought I had taken so much of your time.

Mr. ROONEY. You have plenty of time. That is why you are here. I regret very much that my colleagues are not here this afternoon. This meeting was originally scheduled for this morning.

As you can see on the clock, we are in session at the moment.

Mr. HINTON. Yes, sir, I know. I think we are fortunate that we have you here. As imperfect as EPA may be in anyone's eyes, it is the best mechanism that Congress has created to oversee the public interest for both environmental and consumer protection needs. EPA has become a natural adversary for other Federal agencies established to protect the Nation's health and welfare.

NOISE believes the very existence of EPA, including an environmental noise control program, is vital to our national health and welfare. We urge you to recommend its continued funding with the caveat that a renewed statutory decline be placed on primary program requirements.

Thank you.

Mr. ROONEY. Thank you, Mr. Hinton.

That will conclude our hearing. We do appreciate your being here today.

Thank you.

[Whereupon, at 3:15 p.m. the subcommittee adjourned.]

O

BD - 75.