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NOISE CONTROL ACT AUTHORIZATION

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HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON

PUBLIC WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

FIRST SESSION

ON

H.R. 3995

TO AUTHORIZE APPROPRIATIONS FOR THE NOISE CONTROL
ACT OF 1972 FOR THE FISCAL YEARS 1980 AND 1981

JUNE 14, 1979

Printed for the use of the Committee on Public Works and Transportation



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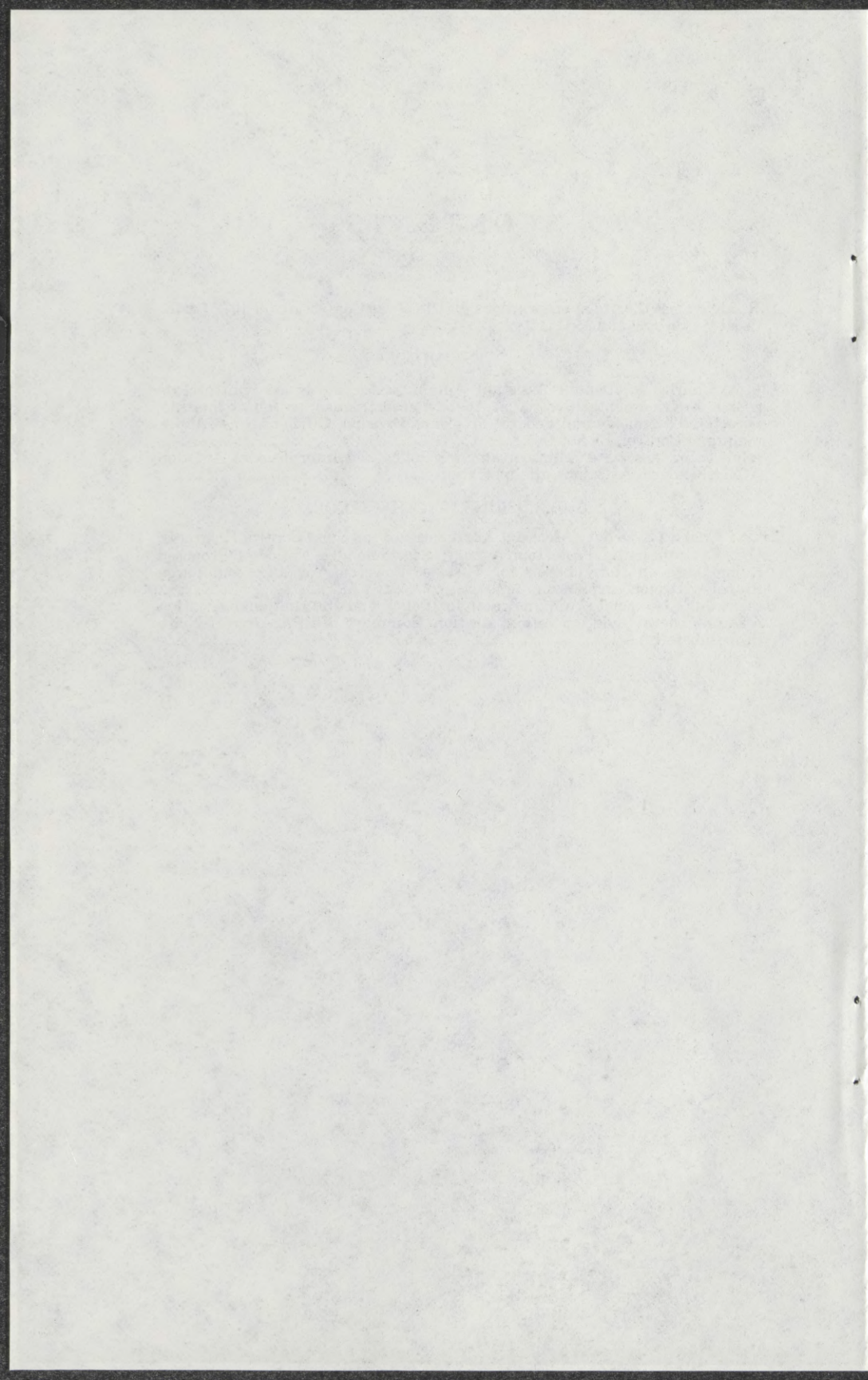
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NOISE CONTROL ACT AUTHORIZATION (H.R. 3995)

THURSDAY, JUNE 14, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Washington, D.C.

The subcommittee met at 10:03 a.m., in room 2167, Rayburn House Office Building, Hon. Glenn Anderson, chairman of the subcommittee, presiding.

Mr. ANDERSON. The meeting of the Subcommittee on Aviation will come to order.

In today's hearings, we are considering H.R. 3995, a bill authorizing appropriations for the Noise Control Act of 1972.

The Noise Control Act includes a number of programs affecting aircraft noise, an issue over which the Public Works Committee has jurisdiction. For example, under the Noise Control Act, procedures are established for the FAA to enact regulations controlling aircraft noise at the source.

In carrying out its responsibilities, the FAA is required to consider recommendations of the EPA.

The Noise Control Act authorizes the EPA to make grants to State and local governments for noise abatement planning for airports. The act also requires the EPA to coordinate aviation noise research.

The bill before us authorizes appropriations to EPA to carry out its responsibilities under the Noise Control Act. In considering the bill, we need to review the EPA's entire aviation noise control program.

For example, we need to evaluate how the EPA has carried out its functions of advising the FAA on aircraft noise control and coordinating Federal noise research.

We will also consider how EPA plans to implement its authority to make grants for airport noise abatement planning and whether there is an undesirable overlap between EPA's authority and the FAA's authority to make grants for noise abatement planning under ADAP.

To begin today's hearings, we are pleased to have Mr. Charles L. Elkins, the Deputy Assistant Administrator for noise control programs, of the Environmental Protection Agency.

At this time, the Chair will recognize Mr. Snyder for his statement.

Mr. SNYDER. Thank you, Mr. Chairman. I do have some concerns, and I would ask unanimous consent that my entire statement

appear in the record, and I will make a couple of comments based on what you have said.

Mr. ANDERSON. Without objection, so ordered.

[The following was received for the record:]

OPENING STATEMENT BY HON. GENE SNYDER ON H.R. 3995, NOISE CONTROL ACT

Mr. Chairman, our hearings today on H.R. 3995, a bill reauthorizing certain programs of the Environmental Protection Agency for fiscal years 1980 and 1981 and requiring the submission by EPA of a 5-year plan for carrying out its responsibilities under the Noise Control Act, will focus primarily on how EPA has performed its role in the area of aircraft noise abatement.

As you know, regulations limiting the amount of aircraft noise are the product of a joint EPA/FAA effort. EPA is responsible for proposing appropriate rules to the FAA which, in its opinion, would protect the public health and welfare by decreasing aircraft noise. FAA, of course, has the final rule-making authority, and is required to evaluate the safety, economic and technological considerations before adopting any noise abatement rule.

A review of EPA's performance under Section 7 of the noise Control Act and other provisions of that statute, in addition to the Quiet Communities Act of 1978, show that while EPA has prodded the FAA to move faster than it might have without EPA involvement, there are serious deficiencies in the way that EPA has carried out its responsibilities.

We have been advised that EPA's professional aviation noise abatement staff consists of only one full-time person—a drastic cut over earlier staffing levels. One has to question whether one individual interacting with a host of FAA professionals assigned to the same area can really make a meaningful contribution and whether EPA's priorities justify the continuation of any role in this area. In addition, although both agencies are authorized to make planning grants for noise abatement purposes at airports, I question whether such grants are more appropriately left to the FAA in the exercise of its authority under the Airport and Airway Development Act. Allowing this authority to exist in two separate agencies may well lead to a waste of taxpayer money by encouraging redundant programs without adequate coordination.

Therefore, Mr. Chairman, I welcome the opportunity to explore this relationship between EPA and FAA to determine whether the Federal Noise Abatement efforts are being handled in the best possible manner. If changes need to be made, it would be best to make them now before reauthorizing appropriations under the Noise Control Act of subsequent fiscal years.

96TH CONGRESS
1ST SESSION

H. R. 3995

To authorize appropriations for the Noise Control Act of 1972 for the fiscal years 1980 and 1981.

IN THE HOUSE OF REPRESENTATIVES

MAY 8, 1979

Mr. FLORIO (for himself and Mr. MADIGAN) introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To authorize appropriations for the Noise Control Act of 1972 for the fiscal years 1980 and 1981.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That section 19 of the Noise Control Act of 1972 is amended
4 by inserting the following before the period at the end there-
5 of: “; \$15,000,000 for the fiscal year ending September 30,
6 1980; and \$15,000,000 for the fiscal year ending September
7 30, 1981”.

8 SEC. 2. (a) The Administrator of the Environmental
9 Protection Agency shall develop and submit to the Congress

1 not later than March 1, 1980, a five-year plan for carrying
2 out his authorities under the Noise Control Act of 1972.

3 (b)(1) The plan required to be submitted under subsec-
4 tion (a) (hereinafter in this section referred to as "the five-
5 year plan") shall set forth in detail the objectives of each
6 program and other activity proposed to be carried out by the
7 Administrator under the Noise Control Act of 1972 during
8 the five-year period beginning on the date of submission of
9 the plan.

10 (2) The five-year plan shall specify the relative priorities
11 among the various programs and other categories of activities
12 proposed to be undertaken by the Administrator pursuant to
13 his authority under the Noise Control Act of 1972, together
14 with a detailed statement of the annual levels of funding
15 which the Administrator proposes to allocate to each such
16 program or other category.

17 (3) The five-year plan shall contain a schedule or time-
18 table of specific actions proposed to be undertaken by the
19 Administrator during the five-year period in order to attain
20 the objectives referred to in paragraph (1). Such schedule or
21 timetable shall include deadlines for the interim goals neces-
22 sary to attain such objectives.

23 (c)(1) The five-year plan shall contain a separate portion
24 setting forth—

1 (A) the Administrator's research objectives re-
2 specting the health aspects of noise for such five-year
3 period,

4 (B) the relative priorities among the various cate-
5 gories of research activities proposed to be undertaken
6 by the Administrator for purposes of the noise control
7 programs (together with a detailed statement of the
8 annual levels of funding which the Administrator pro-
9 poses to allocate to each such category), and

10 (C) a schedule or timetable of research activity
11 proposed to be undertaken by the Administrator during
12 such five-year period in order to attain such research
13 objectives.

14 The schedule or timetable required under subparagraph (C)
15 shall include deadlines for the interim goals necessary to
16 attain the research objectives.

17 (2) The portion of the five-year plan referred to in para-
18 graph (1) of this subsection shall contain an analysis of the
19 relationship between the research elements of the plan re-
20 ferred to in such paragraph and the other elements of the
21 plan described in subsection (a).

22 (d) A revision of the five-year plan shall be prepared by
23 the Administrator and submitted to the Congress not later
24 than January 31, 1981, and each two years thereafter. Each
25 such revision shall set forth the information described in sub-

1 sections (a) and (b) for the five-year period following the date
2 of submission of the revision.

3 (e) Nothing in this section shall be construed to affect
4 any authority of the Administrator to carry out any activity
5 under the Noise Control Act of 1972 or under any other
6 authority of law.

7 SEC. 3. (a) The Secretary of Transportation is hereby
8 authorized and directed to conduct a study and report to
9 Congress, not later than six months after the date of final
10 promulgation of the regulations referred to in subsection (b),
11 on the availability, effectiveness, and economic impact of
12 noise abatement technology and measures, and noise abate-
13 ment standards identified by the Environmental Protection
14 Agency as being necessary to attenuate noise emitted by
15 equipment and facilities of surface carriers engaged in inter-
16 state commerce by railroad. Such study and report shall
17 include—

18 (1) the availability, cost, and effectiveness of such
19 measures and of acquiring, installing, and maintaining
20 such technology;

21 (2) the effect on railroad operations of meeting the
22 prescribed noise abatement standards; and

23 (3) the financial impact on the railroad industry
24 generally and individual railroads specifically of acquir-

1 ing, installing, and maintaining such technology, imple-
2 menting such measures, and meeting such standards.

3 (b) No rules or regulations which have been proposed or
4 promulgated by the Environmental Protection Agency pursu-
5 ant to section 17 of the Noise Control Act of 1972 subse-
6 quent to January 1, 1979, shall become effective before the
7 date forty-eight months after the date of final promulgation
8 thereof.



Union Calendar No. 199

96TH CONGRESS
1ST SESSION**H. R. 3995****[Report No. 96-202, Parts I and II]**

To authorize appropriations for the Noise Control Act of 1972 for the fiscal years 1980 and 1981.

IN THE HOUSE OF REPRESENTATIVES

MAY 8, 1979

Mr. FLORIO (for himself and Mr. MADIGAN) introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

MAY 15, 1979

Reported, referred to the Committee on Public Works and Transportation for a period ending not later than June 5, 1979, for consideration of such portions of the bill as fall within its jurisdiction under clause 1(p), Rule X

MAY 30, 1979

Referred to the Committee on Public Works and Transportation extended for an additional period ending not later than June 22, 1979

JUNE 18, 1979

Referred to the Committee on Public Works and Transportation extended for an additional period ending not later than July 13, 1979

JULY 12, 1979

Reported with amendments, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Omit the part struck through and insert the part printed in italic]

A BILL

To authorize appropriations for the Noise Control Act of 1972
for the fiscal years 1980 and 1981.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That section 19 of the Noise Control Act of 1972 is amended
4 by inserting the following before the period at the end there-
5 of: “; \$15,000,000 for the fiscal year ending September 30,
6 1980; and \$15,000,000 for the fiscal year ending September
7 30, 1981”. “, and \$11,000,000 for the fiscal year ending
8 September 30, 1980”.

9 SEC. 2. (a) The Administrator of the Environmental
10 Protection Agency shall develop and submit to the Congress
11 not later than March 1, 1980, a five-year plan for carrying
12 out his authorities under the Noise Control Act of 1972.

13 (b)(1) The plan required to be submitted under subsec-
14 tion (a) (hereinafter in this section referred to as “the five-
15 year plan”) shall set forth in detail the objectives of each
16 program and other activity proposed to be carried out by the
17 Administrator under the Noise Control Act of 1972 during
18 the five-year period beginning on the date of submission of
19 the plan.

20 (2) The five-year plan shall specify the relative priorities
21 among the various programs and other categories of activities
22 proposed to be undertaken by the Administrator pursuant to

1 his authority under the Noise Control Act of 1972, together
2 with a detailed statement of the annual levels of funding
3 which the Administrator proposes to allocate to each such
4 program or other category.

5 (3) The five-year plan shall contain a schedule or time-
6 table of specific actions proposed to be undertaken by the
7 Administrator during the five-year period in order to attain
8 the objectives referred to in paragraph (1). Such schedule or
9 timetable shall include deadlines for the interim goals neces-
10 sary to attain such objectives.

11 (c)(1) The five-year plan shall contain a separate portion
12 setting forth—

13 (A) the Administrator's research objectives re-
14 specting the health aspects of noise for such five-year
15 period,

16 (B) the relative priorities among the various cate-
17 gories of research activities proposed to be undertaken
18 by the Administrator for purposes of the noise control
19 programs (together with a detailed statement of the
20 annual levels of funding which the Administrator pro-
21 poses to allocate to each such category), and

22 (C) a schedule or timetable of research activity
23 proposed to be undertaken by the Administrator during
24 such five-year period in order to attain such research
25 objectives.

1 The schedule or timetable required under subparagraph (C)
2 shall include deadlines for the interim goals necessary to
3 attain the research objectives.

4 (2) The portion of the five-year plan referred to in para-
5 graph (1) of this subsection shall contain an analysis of the
6 relationship between the research elements of the plan re-
7 ferred to in such paragraph and the other elements of the
8 plan described in subsection (a).

9 (d) A revision of the five-year plan shall be prepared by
10 the Administrator and submitted to the Congress not later
11 than January 31, 1981, and each two years thereafter. Each
12 such revision shall set forth the information described in sub-
13 sections (a) and (b) for the five-year period following the date
14 of submission of the revision.

15 (e) Nothing in this section shall be construed to affect
16 any authority of the Administrator to carry out any activity
17 under the Noise Control Act of 1972 or under any other
18 authority of law.

19 SEC. 3. (a) The Secretary of Transportation is hereby
20 authorized and directed to conduct a study and report to
21 Congress, not later than six months after the date of final
22 promulgation of the regulations referred to in subsection (b),
23 on the availability, effectiveness, and economic impact of
24 noise abatement technology and measures, and noise abate-
25 ment standards identified by the Environmental Protection

1 Agency as being necessary to attenuate noise emitted by
2 equipment and facilities of surface carriers engaged in inter-
3 state commerce by railroad. Such study and report shall
4 include—

5 (1) the availability, cost, and effectiveness of such
6 measures and of acquiring, installing, and maintaining
7 such technology;

8 (2) the effect on railroad operations of meeting the
9 prescribed noise abatement standards; and

10 (3) the financial impact on the railroad industry
11 generally and individual railroads specifically of acquir-
12 ing, installing, and maintaining such technology, imple-
13 menting such measures, and meeting such standards.

14 (b) No rules or regulations which have been proposed or
15 promulgated by the Environmental Protection Agency pursu-
16 ant to section 17 of the Noise Control Act of 1972 subse-
17 quent to January 1, 1979, shall become effective before the
18 date forty-eight months after the date of final promulgation
19 thereof.

20 *SEC. 4. (a) Notwithstanding any other provision of law,*
21 *simultaneously with promulgation or repromulgation of any*
22 *rule by the Environmental Protection Agency under authori-*
23 *ty of the Noise Control Act of 1972, the Administrator of the*
24 *Environmental Protection Agency shall transmit a copy*
25 *thereof to the Secretary of the Senate and the Clerk of the*

1 *House of Representatives. Except as provided in subsection*
2 *(b) of this section, the rule shall not become effective, if—*

3 *(A) within ninety calendar days of continuous*
4 *session of Congress after the date of promulgation, both*
5 *Houses of Congress adopt a concurrent resolution, the*
6 *matter after the resolving clause of which is as follows:*
7 *“That Congress disapproves the rule promulgated by*
8 *the Environmental Protection Agency dealing with the*
9 *matter of _____, which rule was transmitted*
10 *to Congress on _____.”, the blank spaces*
11 *therein being appropriately filled; or*

12 *(B) within sixty calendar days of continuous ses-*
13 *sion of Congress after the date of promulgation, one*
14 *House of Congress adopts such a concurrent resolution*
15 *and transmits such resolution to the other House, and*
16 *such resolution is not disapproved by such other House*
17 *within thirty calendar days of continuous session of*
18 *Congress after such transmittal.*

19 *(b) If, at the end of sixty calendar days of continuous*
20 *session of Congress after the date of promulgation of a rule,*
21 *no committee of either House of Congress has reported or*
22 *been discharged from further consideration of a concurrent*
23 *resolution disapproving the rule and neither House has*
24 *adopted such a resolution, the rule may go into effect immedi-*
25 *ately. If, within such sixty calendar days, such a committee*

1 *has reported or been discharged from further consideration of*
2 *such a resolution, or either House has adopted such a resolu-*
3 *tion, the rule may go into effect not sooner than ninety calen-*
4 *dar days of continuous session of Congress after such rule is*
5 *prescribed unless disapproved as provided in subsection (a) of*
6 *this section.*

7 (c) *For purposes of subsections (a) and (b) of this*
8 *section—*

9 (1) *continuity of session is broken only by an ad-*
10 *jourment of Congress sine die; and*

11 (2) *the days on which either House is not in ses-*
12 *sion because of an adjournment of more than three*
13 *days to a day certain are excluded in the computation*
14 *of thirty, sixty, and ninety calendar days of continu-*
15 *ous session of Congress.*

16 (d) *Congressional inaction on, or rejection of, a resolu-*
17 *tion of disapproval, shall not be deemed an expression of ap-*
18 *proval of such rule.*

19 (e) *For purposes of this section, the term “rule” in-*
20 *cludes, but is not limited to, any rule, regulation, principle,*
21 *standard, or procedure, or any part thereof.*

Amend the title so as to read: “A bill to authorize appropriations for the Noise Control Act of 1972 for the fiscal year 1980.”.

Mr. SNYDER. A review of EPA's performance under section 7 of the Noise Control Act and other provisions of that statute, in addition to the Quiet Communities Act of 1978, do indicate that while EPA has probably prodded the FAA to move a little faster that there are serious deficiencies in the way that EPA has carried out its responsibilities.

Mr. Chairman, we have been advised on this side, and I would be interested in finding out today whether it is true or not, that EPA's professional aviation noise abatement staff consists of only one full-time person, which is a drastic cut over earlier staffing levels.

One has to question whether or not one full-time individual in interaction with a host of people charged with that responsibility at FAA, and professionals in the area, we hope, can make a meaningful contribution, and whether EPA's priorities justify the continuation of any role at all by them in this area.

In addition, as you indicated, both agencies are authorized to make grants for noise abatement purposes at airports, as planning grants. I question whether such grants—particularly if it is true that they only have one full-time person down there—are not more appropriately left to the FAA in the exercise of its authority under the ADAP bill.

Allowing this authority to exist in two different overlapping, separate agencies, as you indicated, could well be a waste of taxpayers' money and encourage redundant programs without adequate coordination.

Mr. Chairman, I have asked unanimous consent that my entire statement appear in the record. I have commented on the crux of it and hope that as the witnesses testify, they can address themselves to what has been indicated, at least to us, as to the truth of the matters.

Thank you, Mr. Chairman.

Mr. ANDERSON. Thank you, Mr. Snyder.

Mr. Elkins, please proceed.

TESTIMONY OF CHARLES L. ELKINS, DEPUTY ASSISTANT ADMINISTRATOR FOR NOISE CONTROL PROGRAMS, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY JOHN SCHETTINO, DIRECTOR, TECHNOLOGY AND FEDERAL PROGRAMS DIVISION, OFFICE OF NOISE ABATEMENT AND CONTROL, EPA

Mr. ELKINS. Thank you, Mr. Chairman. I am happy to be here again to present testimony to this committee. I have with me Mr. John Schettino, who is Director of the Technology and Federal Programs Division of the Office of Noise Abatement and Control.

We are pleased to be here to speak about the Environmental Protection Agency's noise control program and to support the House of Representatives' reauthorization of the Noise Control Act of 1972 as amended by the Quiet Communities Act of 1978.

EPA considers the noise control program to be a cost effective program, and strongly supports its continuation. We believe we have found innovative methods for making each Federal dollar spent for noise control count. I would like to share a few of these approaches with you in the course of this testimony.

Let me first provide an overview of our program. Consistent with the Environmental Protection Agency's responsibilities in dealing with other pollution media, we have the primary Federal responsibility to reduce and prevent the deleterious effects of noise on people's health and welfare.

Many of the unusual features of our program find their roots in the complexities of these noise effects themselves, beginning with the ear which is often regarded as our most complex sensory organ, and continuing to some unique and little understood complexities of the human brain. Each of the effects which noise has on us has both obvious and subtle qualities and include hearing loss, sleep interference, speech interference, and other nonauditory effects.

The Agency has a responsibility for coordinating the noise control programs, including the research of all Federal agencies to prevent or minimize these effects. We have more specific responsibilities in performing and encouraging research on the effects of noise and in developing the technology to control such effects.

The Agency's responsibility for setting noise emission standards for new products to be met by the manufacturer of those products applies to all sources of noise except aviation. In this regard, we have now identified nine products to be subject to regulatory action; four regulations have been proposed, and two are currently in effect; six more are scheduled for promulgation by the close of fiscal year 1981.

I might add for clarification that these six include the four which have been proposed.

With respect to aviation noise the EPA role, as spelled out in section 7 of the Noise Control Act, has included proposing 11 regulatory actions for FAA consideration in the area of aviation noise abatement. While we have indicated concern regarding the timeliness of FAA's response to our proposals and the stringency of FAA's regulations, the FAA has taken some form of action on all but two of our recommendations thus far. As a result of these actions, the FAA has charted a course which is expected to reduce the population exposed to L_{dn} 65 for people living around our major airports from 7.5 million in 1972 to approximately 3 million in 1985. This assumes the FAA regulations will be implemented as promulgated.

I might add one other point that was not included in the written testimony. That is that it also assumes that noise abatement flight procedures are routinely employed.

The Quiet Communities Act amendments which Congress passed last year round out the Federal noise control authorities and make possible the implementation of a balanced national noise control program.

In 1972, Congress recognized that the primary responsibility for control of noise rests with State and local governments. Our job has been to assist communities and States in initiating their own comprehensive noise control programs and to assure that their programs and those of the Federal Government are complementary. At present there are 12 active State noise control programs and approximately 50 active local programs. Because of the strong interest at the local level and the need for local programs to supplement the Federal effort, we hope to see in place and operat-

ing by 1985 400 community and 40 State noise control programs which are effective and able to stand on their own. To achieve these goals, we are placing primary emphasis in the beginning on encouraging State programs, which will join us as partners in the national effort to control noise.

An effective community noise control program to date typically contains some or all of the following components: Vehicular noise control; stationary source control; education and public awareness; and prevention and noise abatement planning.

The vehicular component is often the first step that the community takes toward protecting its citizens from the impact of noise. It usually involves the enforcement of an ordinance which makes it unlawful to operate a vehicle on city streets in such a manner as to create more than 75 decibels measured at a distance of 50 feet.

The stationary source standard is designed to protect people from their neighbors' noise at the property line, and typically applies to nonvehicular sources of noise. For a residential piece of property, it might allow a maximum of 55 decibels to come across the receiving property line. In most instances, these ordinance provisions are responded to on a complaint basis with successful community noise control programs usually able to resolve more than 90 percent of these complaints to the satisfaction of the complainants.

The educational aspects of the community noise control program in the past has consisted primarily of responses to requests from schools and civic groups to provide talks and demonstrations on the effects of noise on people and how the noise may be controlled. Some community programs are beginning to demonstrate the potential of their educational efforts to actually achieve noise control by encouraging voluntary efforts to control noise.

We believe that prevention of noise exposure, as compared to abatement, is the most cost effective method of achieving noise control. A preventative noise control component can be particularly important in dealing with major noise sources such as airports for which the community has a permanent and growing investment of dollars, facilities, land, and services. We believe efforts to prevent noncompatible residential encroachment around such facilities, or similarly noisy industrial or commercial uses encroaching on residential areas, constitute one of the most important functions of a community noise control program.

Community planning tools and skills are being developed and demonstrated to deal with aviation and other noise sources in a coherent fashion. Preventative efforts such as building permits, zoning controls, reviews of development projects, transportation plans and studies, and other growth management tools, can be helpful in avoiding the need for expensive acoustical retrofit after the fact.

We believe the rapport and understanding that we have developed with community and State noise control programs will allow us to play a significant role in achieving solutions to this Nation's aviation and other noise problems.

Our technical assistance to State and local noise control programs can be delivered by four mechanisms.

First, our regional personnel provide direct technical assistance to States and communities and further manage other assistance mechanisms.

A second assistance opportunity, the use of regional technical assistance centers, is provided for in the Quiet Communities Act. Such centers could be established in universities or other institutions with expertise to assist communities and States.

The third mechanism is the ECHO program, which stands for each community helps others. This program is based on the belief that the national noise control effort can be no stronger than our State and local professional noise control officials and that their efforts and ours must be built into a cohesive national effort. The ECHO program calls on the volunteer services of a select group of highly talented and motivated community noise control program officials to support the needs of the national program. They serve as advisers to provide onsite assistance to other communities which are interested in initiating their own noise control program or in adding a functional element to an already existing program. We pay the travel for these community noise advisers, and either they or their communities donate their time. Thus far, we are extremely happy with the success of this volunteer program and have received nothing but accolades from State and local officials.

The fourth assistance mechanism involves developing a State capability to deliver technical assistance. We can provide assistance in the creation and strengthening of State noise control programs. We are working with several States now to encourage them to take over the responsibility for the ECHO program within their respective States.

As another example of a way to provide assistance and hold initial costs within reason, we have helped communities obtain the services of older Americans paid for through other Federal funds. Thus far, we are very pleased with their performance. Our country's senior citizens are "naturals" for such noise work, since together with younger children, they are the most heavily impacted by the effects of noise on their lives; their stress reactions and sleep interference difficulties with noise are greater than those of other age groups. They are willing and enthusiastic and are great spokesmen for noise control.

Our regulatory and technical assistance activities are also supported by scholarly efforts in health effects research, technology development and demonstration, and other supportive noise control actions.

We believe that our noise control program is becoming increasingly effective. The President's budget for 1980 provides for \$13 million and 105 permanent full-time employees.

This concludes my statement, Mr. Chairman, and I will be pleased to answer any questions you might have.

Mr. ANDERSON. Thank you, Mr. Elkins.

In the President's budget, the recommended appropriation was \$13 million for noise control programs for fiscal year 1980. In H.R. 3995, as reported by the Commerce Committee, the authorized appropriation is \$15 million.

Did the EPA recommend to the President or to the Commerce Committee that an additional \$2 million be authorized, and do you see a need for the additional \$2 million?

Mr. ELKINS. Of course, the EPA has supported the President's budget of \$13 million. It is my understanding that the other committee is interested in seeing increased work with local communities.

Mr. ANDERSON. Which other committee?

Mr. ELKINS. The Interstate and Foreign Commerce Committee, in authorizing an additional \$2 million, is interested in seeing us work with communities, particularly by providing financial assistance to them, more so than is provided in the President's budget. In addition, I believe there is interest in that committee for us to do more research in the health effects of noise, so that additional money would provide for further work in both of those areas.

Mr. ANDERSON. So you did not ask for the \$2 million that was then given to you by Commerce. You asked for the \$13 million that the administration recommended?

Mr. ELKINS. That is correct. We, of course, support the President's budget, put together to have a total administration budget.

Mr. ANDERSON. So you asked for \$13 million.

Mr. ELKINS. That is correct.

Mr. ANDERSON. You did not ask for \$2 million, but that \$2 million was recommended by the Commerce Committee.

Mr. ELKINS. That is correct.

Mr. ANDERSON. How much of the \$13 million, recommended in the President's budget for 1980 would go to aviation noise control—and I might go on by saying, how many of the 105 full-time employees for 1980 would work in aviation noise control. And in answering these questions, please include a breakdown of EPA's different aviation noise programs by funding levels of manpower.

Mr. ELKINS. All right. Of the 105 full-time people working in noise control in EPA, 6 would be working in aviation noise in 1980. Funding would include their salaries plus approximately \$440,000 of contract funds.

We have essentially two different activities within EPA in aviation. One is to work with the FAA on regulations, and the other is to work with airports to develop airport plans for noise abatement.

The split between those functions is about four people to work in 1980 with the FAA on regulations and to identify needs and opportunities in that regard, and about 1½ people to work on the airport planning side.

Mr. ANDERSON. Now, the six that will be working in 1980, the other day when you were talking to me, I think you said 1½ persons. Is that 1½ today, and it will be six in 1980, so I can get those in the right context.

Mr. ELKINS. The people who are working today in aviation—

Mr. ANDERSON. And do you want to clarify that 1½ persons, so I understand what that was for now, in this context.

Mr. ELKINS. In 1979, the program consists essentially of two full time people who work only on aviation noise. One person works full time on airport planning and another person works full time on the regulatory side. In addition to that, we have the time of Mr. Schettino, who is a supervisor of one of those gentlemen, and we

have the time of the supervisor of the other gentleman, as well. So when you add up full-time employees working on aviation noise today, it would total more like $2\frac{1}{2}$ man-years.

Mr. ANDERSON. Now, I understand that you estimate in fiscal 1980, you will devote 4 man-years to your responsibilities for aviation noise regulations. Now, does this responsibility involve anything other than making recommendations to the FAA on aviation noise regulations?

Mr. ELKINS. It involves doing the staff work that would back up such recommendations. One cannot just sit down and write a regulation, as I am sure you understand. The technological and the health and welfare information must be developed. Those people will be doing that. In addition, they will be identifying what the noise situation around the Nation's airports will be in the year 2000 and later years, which then identifies the need or the lack of such need in those years for regulation.

Mr. ANDERSON. When did the EPA make its last aviation regulation recommendation to the FAA?

Mr. ELKINS. The last two recommendations that we sent to the FAA were in 1976. They were regulations dealing with airport planning and with new source controls.

Mr. ANDERSON. The last two were in 1976.

Mr. ELKINS. That is correct.

Mr. ANDERSON. Would you explain what the persons working on aviation noise regulation have done since the last recommendation to the FAA.

Mr. ELKINS. Yes. The one person who has been working since that time on the regulations has been working primarily on takeoff procedures. The takeoff procedure is an area where the FAA has been interested in either regulating or giving an advisory circular, as they finally concluded that they would do. We did a great deal of technical analysis in that area, with the prospect of proposing a regulation of our own. But we have concluded, at least at this point, that the FAA action, based on their data and the data which we have provided them, is in the right direction, and that no further regulatory proposal from us in that area is necessary. We are somewhat concerned, however, with regard to the implementation of that advisory circular in that it is not enforceable, and we have yet to see what the effect of that advisory circular will be on takeoff procedures.

Mr. ANDERSON. One of your pending proposals to the FAA requires that all air carrier airports develop and implement noise abatement programs, and I have several questions regarding this proposal.

Do you contemplate that it would be mandatory for an airport to develop and implement a noise abatement program?

Mr. ELKINS. No, sir, not for every airport. The proposal that we sent to the FAA in 1976 in this area would require airports to identify the extent to which they have an L_{dn} 65 impact on communities outside of the airport boundaries and outside of land which is compatible with that noise, particularly residential land. If the airport proprietor identifies such impact outside the airport boundaries, then under our proposal he would be required to do a plan on how that impact could be reduced.

This would mean that small airports using a desk calculator, not even a computer, would be able to tell whether they had Ldn 65 or NEF 30 impact outside their boundaries and would be able to see whether a plan was needed. If they did, the smaller the airport and the less impact outside the boundaries, the more simple the plan would be. So the degree of planning which we contemplated would go on at all of the certificated airports would vary according to the size of the problem.

Mr. ANDERSON. Wouldn't this proposal involve the Federal Government in local land-use planning, and if so, shouldn't land-use planning be primarily a local decision?

Mr. ELKINS. It would require the airport proprietor to show what the impact of noise would be on land around the airport, both now and in future years. It would encourage him to sit down with the local officials who have control over land use, to make this information available to them and to suggest steps that they could take to keep the residential areas from encroaching on the airports.

In no way would there be a Federal requirement that the local officials take any steps whatsoever with regard to land use. However, it is certainly the intent to inform them that many of these impacts will not go away and, in fact, may become greater, and to encourage them to take steps at the same time that the proprietor of the airport is trying to take steps to deal with this problem, rather than hiding from the problem. Quite frankly, it is our view that some communities have tried to hide from the problem by essentially pointing to the airport and saying it is all the airport's problem.

What the EPA was proposing that FAA require was a process by which these officials would get together using a common set of data, and confront this, but without any standard that they would have to meet in order to have a plan acceptable to the Federal Government.

The short answer to your question is that the Federal Government would not be involved in land-use planning except in an encouraging mode.

Mr. ANDERSON. In promulgating its proposal, did the EPA consider whether the proposed Federal involvement would make the Federal Government liable in lawsuits by homeowners who suffer loss of property value as a consequence of aircraft noise?

Mr. ELKINS. Yes, Mr. Chairman, I can certainly assure you that that was a major issue that we confronted. The last thing that we would want to encourage would be having the Federal Government responsible for these damages.

We support the conclusion that the Supreme Court reached, that this should be a local responsibility.

We felt—and we still feel—that by having the regulation mandate a process as opposed to a result, and by having the plans only disapproved, not approved, by the Secretary we safeguarded the Federal Government from any charge of liability. We believe that fear of liability in the Federal Government is not a valid concern with regard to requiring airports to plan under these terms.

Mr. ANDERSON. I cannot reconcile your statement that you just want to encourage them and educate them with what the rules say. Article F here says that:

Once a plan is incorporated as an amendment to the airport operating certificate, the airport proprietor shall implement the plan in accordance with the schedule included in the plan. The airport proprietor may revise his plan by submitting a new plan to the Administrator pursuant to section 140.4.

It goes on with other provisions, and it tells about "the effect of failure to comply with this part" and so on. It seems to me you are doing a little bit more than just educating here.

Mr. ELKINS. If I may disagree with you, Mr. Chairman, the regulation as proposed would require the airport proprietor, in conjunction with the local officials, to come up with a plan which they felt they wanted to implement.

Once they agreed that they would implement that plan, you are correct that they would be required to proceed with the plan.

Mr. ANDERSON. First, they have to submit a plan, don't they?

Mr. ELKINS. They have to submit a plan, but the content is not regulated.

Mr. ANDERSON. But they have to submit a plan to meet the problem, and then they have to comply with it. It seems to me you are laying it out pretty clearly for them.

Mr. ELKINS. Well, sir, we did not require them to submit a plan that met the problem. That is the link by which they can escape. There is strong encouragement, of course, that they write an effective plan to deal with the problem.

Mr. ANDERSON. Well, if they write a plan that is not effective and carry that out, then they are all right; is that it?

Mr. ELKINS. That is right. If they write a plan which is not effective and carry that out, they can still get by. So it is requiring a process by which the local officials are encouraged to come to terms with the problem, but there is no intervention by the Federal Government to force them to come up with a plan which they are unwilling to come up with.

Mr. ANDERSON. Then what about this part that tells about the minimum acceptable plan. You have quite a bit of discussion on that.

Mr. ELKINS. That is right, but it is nonmandatory. The regulation gives encouragement, but without any force of law. It is a way of giving some guidelines by which EPA would hope that communities would address the creation of the plan in a conscientious manner. But that is nonmandatory and nonregulatory in nature, for the very reasons, I think, that you have identified in your questioning.

Mr. ANDERSON. In developing this proposal, would the EPA give any consideration to the cost of the proposal to airport proprietors?

Mr. ELKINS. Yes, we were concerned with that. I think an earlier response to you, Mr. Chairman, addresses that in part. We were saying that the smaller the problem, the less complex it would be to develop a plan, and that therefore, the burden of preparing the plan would be essentially in proportion to the size of the airport and thus their ability to pay.

The cost of implementing the plan would have to be determined as they came up with the plan that they thought was desirable, and they would obviously be concerned about the extent to which they would be able to receive any ADAP funding for implementation. So I think that the extent to which the plan would be approved.

able might well depend on the extent to which they felt they could come up with the revenues to implement it.

Mr. ANDERSON. I have a lot more questions here, but I think in deference to the other members I will come back to them later.

Mr. SNYDER, I know you have some questions.

Mr. SNYDER. Thank you, Mr. Chairman.

Mr. Elkins, before we get into this specific bill, you were up here in April and testified before this committee on noise. We had three bills before us—Chairman Anderson's bill, what is referred to as the Johnson-Harsha bill, and the Mineta bill. I do not remember the numbers. All three of those bills had similar title I's, not identical but similar. You testified on all three of them.

Mr. ELKINS. That is correct.

Mr. SNYDER. And you never mentioned title I in your testimony before this committee.

Last week, you went over before the other committee, and you tore up title I, piece-by-piece, and every piece that you tried to tear out of there appeared in at least one of the bills before us, most all of them in at least two of the bills, and some of them in all three of the bills. Now, why was that?

Mr. ELKINS. Mr. Snyder, I think if you will look at the record of the hearing when I testified before this committee, you will find comments—

Mr. SNYDER. I have them up here.

Mr. ELKINS [continuing]. All right—you will find comments by me on almost all of those provisions. I think you will find my testimony of last week consistent.

Mr. SNYDER. Well, now, here is your testimony before this committee, and I will bring it down there, or I will send it down to you, and you find the comments for me.

Mr. ELKINS. I am speaking here about the question and answer period.

Mr. SNYDER. Well, I am talking about your prepared statement here and your prepared statement there. I do not think that is fair to us. We have the primary responsibility for that bill. It was sequentially referred down there.

If it had been amendments that we had put in after your testimony, I could have understood that. But I think you have got to be fair with this committee, and now come up here, where we have primary jurisdiction of the bill, and not mention this section, and not raise any criticism about it, and then go down to another committee, to which it is sequentially referred, and tear it up, when you had that opportunity here.

Mr. ELKINS. Mr. Snyder, I would like to refer you to my oral testimony; I was here for 2 hours before this committee and was asked a number of questions about title I. And I think you will find that my statements before this committee are fully consistent with what I said—

Mr. SNYDER. I have to confess I have not read back the question and answer portion of your statement. But I do have up here the prepared text before both committees. And if title I of those bills was so onerous to you and to EPA as to warrant some three or four pages of attack in your prepared testimony before the other committee, it ought to have been just as onerous to you in April, to

have done the same thing here and given us the benefit of your views.

Mr. ELKINS. Mr. Snyder, I can understand that you might feel that I was being unfair to this committee. I was urged by the Office of Management and Budget to be explicit in my comments on title I in my testimony last week. The administration has a number of problems—

Mr. SNYDER. Oh, I see. Now, in other words, who prepared your statement, then, when you were here?

Mr. ELKINS. I prepared both statements, sir.

Mr. SNYDER. Was it under the direction of OMB in the latter case?

Mr. ELKINS. Mr. Snyder, every piece of testimony which EPA provides before a committee is reviewed by—

Mr. SNYDER. I understand it is cleared, but you are now telling me that you got advance information on what they wanted you to come down on.

Mr. ELKINS. OMB was anxious that I be explicit in our objections to title I. They are no different than the objections I indicated to this committee.

I think you are correct in saying that my statement before this committee was quite short, and the one before the other committee was longer and gave more detail.

In addition, I might say that the comments which we had on title I have been discussed at various times during the last 2 years on earlier versions of this bill both in testimony and, even more so, in terms of comments with the staff. So that I would hope that there was no surprise to our views on these bills.

Mr. SNYDER. Well, I am not going to belabor that point, but I want to say that you have not convinced me that you were totally fair with us in not raising those objections here and then going over to the other committee and raising them. That is my personal opinion. I do not know how the other members feel about it.

In response to some of the chairman's questions about your staff, you added up part-time employees to get 2½ for now. Is that right, with the exception of one—I mean, full-time employee, but part-time working on aviation?

Mr. ELKINS. At the present time, sir, there are two people who work full time on aviation noise.

Mr. SNYDER. And your future staffing plans call to go to six?

Mr. ELKINS. That is correct.

Mr. SNYDER. How many of the six will be clerical and stenographic types?

Mr. ELKINS. I think none, sir.

Mr. SNYDER. All six would be professionals?

Mr. ELKINS. Yes.

Mr. SNYDER. Considering the size of FAA's staff, do you believe that FAA's program makes an effective contribution to the total noise control effort—I am talking about aircraft, now.

Mr. ELKINS. We have had a varying level of staff directly involved in aviation noise. When we were making proposals on a more active basis to the FAA several years ago, we had an entire branch consisting of seven people who were involved. Most of those

people now are working on other product areas besides aviation or in other parts of the noise program.

With regard to—

Mr. SNYDER. You do not give it much priority; is that right?

Mr. ELKINS. We gave other things higher priority in the last 2 years. We gave a great deal of priority to the implementation of this section in the early years of the Noise Control Act. We feel now that it deserves slightly more priority, as indicated in the 1980 budget where there is a total of 6 people out of 105.

Mr. SNYDER. Well, this bill, I believe, authorizes \$15 million. I think the budget is \$13 million—if I am wrong about that budget figure, you can correct me, but I think that is about right. Aren't you committing \$440,000 to aviation noise?

Mr. ELKINS. In the 1980 budget, yes, sir.

Mr. SNYDER. Well, what percent is \$440,000 of \$13 million, assuming you get the budgeted figure and not the authorization—that is, roughly? It is about one-twenty-sixth, if it is a half million dollars, isn't it?

Mr. ELKINS. I think that would be right—plus the salaries. That \$440,000, as I indicated earlier, does not include the salaries.

Mr. SNYDER. Does that include the planning grants you give?

Mr. ELKINS. Yes, it does. That is right.

Mr. SNYDER. That is indicative, I would assume, of the priority which you place on this program down in your Agency. I do not know how else I can read that.

Mr. ELKINS. The Noise Control Act and the authority which you are reviewing at this point has a number of responsibilities for EPA, and we have allocated this level. I do not know whether you are saying this is a bad priority for the aviation noise. Whether it is too much or too little.

Mr. SNYDER. I am not saying it is good or it is bad. I am saying that it is low in your set of priorities. That is what I am saying. I am not passing judgment, at this time on whether you ought to give it a higher priority or not. But I am reaching the conclusion that you give it a very low priority. Now, do you disagree with that?

I would say quite frankly to you, I am not so sure we should not just leave the priority out and just give it over to FAA, if you are not going to do anything with it. But I have not reached any conclusion about whether you are right or wrong. I am trying to determine the facts of where you place it.

Don't you agree that it is kind of low on the totem pole down there?

Mr. ELKINS. Well, we think it is the appropriate level.

Mr. SNYDER. I am not questioning that.

Mr. ELKINS. It is a small proportion of the total budget, yes, sir. I agree with that.

Mr. ANDERSON. Is there anything lower?

Mr. SNYDER. The chairman wants to know is there anything lower? Is there any other major area of your noise control program that is lower?

Mr. ELKINS. Yes. Construction noise, I believe, is a lower priority—lower budget level.

Mr. SNYDER. Like jackhammers and stuff like that?

Mr. ELKINS. Right, and household products, which is also one of our concerns.

Mr. SNYDER. That is the hum of the refrigerator?

Mr. ELKINS. No, things like lawnmowers and household tools. The highest priority is on traffic noise.

One other thing I should say to clarify the budget figures which you have before you is that so much of the budget is in terms of helping local communities, start-up programs—

Mr. SNYDER. With \$440,000?

Mr. ELKINS. No, excuse me, outside of this money, which is not identified with any particular product. It is a generic assistance to local communities. As I tried to indicate in our testimony, we believe this has a beneficial impact on a community's ability to control land use around major sources of noise, whether they are airports, transportation facilities, or industries.

So it may be that part of your difficulty in examining this budget—and perhaps I have not helped you here—is the—

Mr. SNYDER. I have no difficulty; I understand.

Mr. ELKINS [continuing]. Is the fact that some of this money, a good amount of the money, going to local communities is not identified with aviation or with traffic noise or with any particular source, but is more functional in nature.

Mr. SNYDER. Now, on page 2 of your testimony, beginning with the first full paragraph that appears there at the middle of the page, you talk about "The Agency's responsibility for setting noise emission standards for new products—," and you mention you have identified nine new products, and four regulations, and this, that and the other, down to "Fiscal Year 1981."

The definition of products under the Noise Control Act specifically excludes aviation, as you have indicated there in your statement.

Mr. ELKINS. That is correct.

Mr. SNYDER. So that what we boil down to is that what you have done totally down there in respect to aviation has been that you have suggested 11 proposals to FAA, and I believe you said some action has been taken on all but 2.

Over what period of time has that 11 been suggested?

Mr. ELKINS. Since 1974.

Mr. SNYDER. In 5 years, you have cranked out 11 suggestions?

Mr. ELKINS. That is correct.

Mr. SNYDER. And none in the last 2 years, approximately? Two years ago was the last one?

Mr. ELKINS. That is correct, yes.

Mr. SNYDER. Now, in respect to the 9 on which action has been taken, how many of them were implemented in full or in part, and how many were rejected?

Mr. ELKINS. As an overall summary, I would say that the FAA has not agreed with most of the proposals which EPA has sent.

Mr. SNYDER. Well, what have you all put down there in this area that has been productive? You put out 11 suggestions; 9 have been acted on by FAA, and the majority have been rejected.

Mr. ELKINS. Well, it is hard to tell cause and effect, Mr. Snyder, but I would—

Mr. SNYDER. May I make a suggestion as to cause and effect? May I suggest to you that the proposals you have set down there

have been old FAA proposals that somebody dug up that they had already considered, and that there has been nothing new on your part.

Mr. ELKINS. I think that is not totally correct.

Mr. SNYDER. Partially correct?

Mr. ELKINS. It is partially correct, that some of the ideas which we—

Mr. SNYDER. I am going to quit, because some other people have questions. But for the record, would you lay out those 11 proposals, of the 9 that have been acted on, which ones were accepted and which ones rejected, and of all the 11, how many of them were old, warmed-over FAA proposals that they had already considered back in times past. Would you do that for me?

Mr. ELKINS. I would be glad to do that.

Mr. SNYDER. I appreciate that.

Mr. Chairman, thank you very much.

[The following was received for the record:]

Question. EPA has proposed 11 aviation noise regulations to the FAA. Of the nine proposals on which the FAA has taken action, which ones were accepted and which ones were rejected?

Answer. The FAA has promulgated one of the proposed regulations and portions of three others. The FAA rejected five of the proposed regulations. These regulations are as follows:

EPA Regulations which FAA has promulgated

Reduced Flap Setting on Approach

EPA Regulations which FAA has promulgated in part

Noise Standards for Propeller-Driven Small Airplanes

Noise Retrofit Requirements

Noise Requirements for Civil Supersonic Airplanes

EPA Regulations which FAA has rejected

Minimum Altitudes in Terminal Areas

Fleet Noise Level Requirements

Visual Two-Segment Approach

ILS Two-Segment Approach

Concorde Operations at U.S. Airports

EPA Regulations not acted upon to date

Noise Levels for Future Design Aircraft (Stages IV and V)

Airport Noise Regulatory Process

Question. Have EPA's aviation noise proposals to the FAA been simply "warmed-over" ideas which the FAA had previously rejected?

Answer. The Noise Control Act did not require that the EPA submit only EPA-originated ideas to the FAA. Instead, the Act required the Agency to review the activities of the FAA under its 1968 Congressional directive to abate aviation noise and to set forth in a report to the Congress those actions which would provide for the protection of the public health and welfare. At the time of the report to Congress (August, 1973), the FAA had taken very few actions under its 1968 mandate. Only two regulations had been promulgated and two advisory circulars had been issued. Advance Notices of Proposed Rulemaking had been issued for three other areas, but two of them dated back to the fall of 1970 with no further action taken. These advance notices of proposed rulemaking laid out concepts for comment, but in no way represented commitments by the FAA to promulgate a rule or to pursue a particular approach to the problem.¹

EPA's 1973 report to the Congress laid out an agenda for EPA proposals and EPA began the drafting of these proposals. EPA observed a concurrent increase of activity at the FAA in many of the same general areas. Since the objective of the EPA effort was final promulgation of protective regulations and not credit for thinking up the idea of creating paperwork for the FAA, there was no need for the

¹ Two notices of proposed rulemaking (NPRM's) had also been issued on modifications to FAR 36, but EPA's Report did not propose EPA actions which would impact these latter proposals.

EPA to propose regulations to the FAA if the FAA was going to take necessary action on its own. However, in the case of several areas where FAA was working on a proposal, EPA concluded that it should propose a rule to the FAA because the EPA proposals contained different ideas on the same subject or were more environmentally protective.

As an example, the EPA proposals for propeller driven small airplanes and for retrofit provided more environmental protection than what the FAA was proposing. We felt a better rule would result if we proposed our rule and thereby asked the FAA to address in a formal manner whether their rules were protective enough. Similarly, the EPA proposal for minimum altitudes put into regulatory form an idea which the FAA had already put into an advisory circular. EPA had information that the advisory circular was not being complied with and that the FAA has no procedure for monitoring and enforcing advisory circulars. The EPA felt an enforceable regulation would be more appropriate in this case.

In short, 8 of the 11 proposals sent to the FAA were built on FAA concepts which had been apparently neglected (not officially rejected) or which were not carried by the FAA to a level of environmental protection which we believed was both necessary and practicable. Three of the proposals were largely original to the EPA (Stage IV and V levels for new design aircraft, the airport planning regulatory process, and Concorde operations at U.S. airports).

At the time these proposals were identified in the August 1973 Report, none of these concepts had been officially rejected by the FAA. By the time the formal proposals were actually transmitted to the FAA, the FAA had clearly indicated they would prefer not to receive some of them (leading us to believe they had internally rejected some of the concepts on which they were based), but this did not seem a reasonable basis for not proposing them if we believed that they were more environmentally sound and achievable. The FAA's primary mission is safety and the promotion of the National Air Transportation System. EPA's mission is environmental protection. EPA's proposals provide an environmental perspective which, as the FAA has testified at these hearings, it has found to be valuable. This is perhaps the best proof that EPA's proposals cannot be dismissed as "warmed over" ideas. We certainly believe FAA deserves credit for moving forward in some areas after our August 1973 Report to the Congress. However, we believe EPA's mandate has been helpful in stimulating and improving this process, and we have no reason to believe that this would not be true in the future.

Mr. ANDERSON. At this time, we will recess to vote, and then we will come right back. It will be about 15 minutes.

[Brief recess.]

Mr. ANDERSON. The subcommittee will come to order.

We had just completed some of Mr. Snyder's questions. We will go on and then come back to him a little later.

Mr. FARY?

Mr. FARY. Thank you very much, Mr. Chairman.

Mr. Chairman, with your kind permission and that of my good friend, Mr. Snyder, and the other members of the committee, I notice that Mr. Elkins is the Deputy Assistant Administrator for Noise Control Programs. Could I please ask him a question other than that relating to air noise?

Mr. ANDERSON. Sure. Go ahead.

Mr. FARY. Thank you very much—including Midway.

Mr. Elkins, the people I represent in Chicago are having an argument with your agency, which you may be aware of. As I understand it, the EPA is under a court order to develop noise emission standards for railroad yards. According to our new mayor in Chicago, the situation is unfortunate, because it allows only a short time for public comment, as I understand. I think it is 45 days.

The city of Chicago has spent a much longer time developing its own noise standards. It has done extensive studies, taking great care in receiving public testimony. The noise standards the city has

developed for our railroad yards are strict. They have to be, because Chicago is a major rail center, and many people live close by.

The mayor tells me that the standards EPA is developing in 45 days will preempt Chicago's carefully drawn standards and that there will be no chance for public hearings on the subject in Chicago.

Does the EPA often develop standards so hastily, and do you have any plans to hold public hearings to fine-tune those?

Mr. ELKINS. Mr. Fary, the regulation which you are referring to was proposed in April, under a court order. This court order required us to regulate rail yards, and essentially all railroad equipment.

Originally, we had decided only to regulate trains and essentially locomotives and railcars, leaving to local communities such as Chicago the rest of the equipment, such as rail yards. The Association of American Railroads sued us, and got a court order to require us to regulate all railroad equipment, in order to preempt communities like Chicago from regulating them. The association won that court suit, and we were required in good faith to produce such a regulation. We have had some consultation with local communities, but we are under a very strict court order to produce it in a year's time. We have gotten some extensions from the court. But having proposed that regulation now in April, the Noise Control Act requires us to finalize that regulation in 90 days. This is the shortest period of time that I know of in any law under which EPA operates.

Normally, we take about a year to go from proposed to a final regulation, in order to allow plenty of time for public hearings and public comment. But the Noise Control Act in this particular area, the railroad area, requires us to promulgate the final rule in 90 days.

We therefore looked at that 90 days and divided it up into 45 days for public comment and 45 days for us to respond to that comment, rewrite the regulation, and get it through the agency.

We had a request from the Association of American Railroads to extend that comment period. We have now extended that comment period to 75 days. So of the 90 days we have to promulgate a rule, we have given 75 over to public comment. But there just is not time to have public hearings and get the transcript from the hearings, and we have had to rely on written comments. This does put communities at a disadvantage, and we are concerned about that. But we do not see any real solution if we are going to try to stay within the time limit that Congress has given us.

Mr. ANDERSON. Mr. Gingrich?

Mr. GINGRICH. Thank you, Mr. Chairman.

Let me start, if I may, by looking a little bit at your health responsibilities. First of all, could you give us some estimate in general terms of what percent of the total noise damage in terms of health in this country is caused by aviation as opposed to other kinds of noise damage? Could you break that down a little bit?

Mr. ELKINS. There are 6 to 7 million people now living around airports in this country who are exposed to 65 Ldn—that is the day/night level of 65—or, as it is known by other terminology, the Noise Exposure Forecast, 30, NEF-30.

When you look at other sources of noise, you see that the number of people exposed to urban traffic noise is about 25 million. I will have to get those exact figures for you.

Mr. GINGRICH. It is 30 to 40 million who live in 65 L_{dn}.

Mr. ELKINS. That is right. In terms of construction noise, I believe it is more like a million people. So aviation noise would rank second in the number of people who are exposed to high levels of noise.

Mr. GINGRICH. OK. I get approximately a 5 to 1 or 6 to 1 ratio between population impacted by traffic and aviation.

Mr. ELKINS. I think that is approximately right.

Mr. GINGRICH. Are you anywhere close to a 5 to 1 ratio in terms of allocation of resources?

Mr. ELKINS. Yes, I think that is approximately correct, given the fact that a lot of the money goes across the board for noise control of all these sources, that is, the money that we give to communities, in many cases, is to work on all the noise sources.

Mr. GINGRICH. OK. Now, you said a while ago that a great deal of priority in the early years was given to aviation noise, but that now you think that—and I am quoting you—“it deserves a slighting of priority.”

Do you think it deserves a slighting of priority because you think we are actually achieving very much with noise, that we now have it under control?

Mr. ELKINS. There are a number of reasons why we have not continued the 7 man-years that we had in aviation noise. The primary reason is that the mechanism which was set forth in the Noise Control Act by which we could impact what the regulations are in aviation noise is not nearly as effective and as direct as it is in other areas such as traffic noise.

In the traffic noise area, we are able to promulgate the regulations and have them apply directly to truck manufacturers. In the case of aviation noise, we make recommendations to the FAA, the FAA must make those—

Mr. GINGRICH. So you are saying that if there was a direct linkage between noise activities and the people who issue the regulations, that there would be a more rational allocation of resources, there would be a better reason to allocate man-years.

Mr. ELKINS. I think the total number of people who are needed to promulgate regulations in the aviation noise area is greater than what we have allocated to it.

There are a number of people in the FAA who are involved. You combine them.

Mr. GINGRICH. Well, I will walk you back through the linkage point. You said that it made more sense to allocate man-years to highway noise because you could directly regulate to the truck manufacturers.

Mr. ELKINS. That is correct, plus the size of the problem. You combine those two, and you have the allocation that we have given to it.

Mr. GINGRICH. So would that, then, lead one to suggest that it is better to combine the noise people with the regulatory people in the aviation field? I am just following the parallel linkage, if I

understood what you just said about why it is more effective in the traffic area.

Mr. ELKINS. I think normally, the way our Government is organized, that the writing of the regulations is by one agency and without another agency looking over its shoulder. This aviation noise arrangement in the Noise Control Act was a compromise which the Congress wrote in after some debate back in 1972, because there was concern about whether the agency which had the primary responsibility for the national transportation system should be wholly responsible, without any checks and balances, for writing regulations for aviation noise. It was the wisdom of the Congress that they would give EPA some oversight responsibility.

Mr. GINGRICH. One last line of questions, if I may. That is, if you are only going to be allocating 3 percent of your budget to aviation noise, and if we are now going from 7 to 2 man-years, and all that, how much of that total time is spent simply interfacing with FAA? I mean, by the time you write a memo to them, they write a memo back to you, you get together to talk out the memo—what is the point of it all?

Mr. ELKINS. We spend most of our time researching the problem to provide hard data to the FAA, rather than spending a great deal of time talking back and forth between the two agencies. There are 6 man-years in this budget for 1980, not 2 man-years.

Mr. GINGRICH. OK. And will those 6 man-years, then, be primarily researchers; is that the thrust of what was said here?

Mr. ELKINS. research in the sense of collecting data which will support actions in the aviation noise area, yes.

Mr. GINGRICH. Thank you.

Thank you, Mr. Chairman.

Mr. ANDERSON. Ms. Ferraro?

Ms. FERRARO. Thank you, Mr. Chairman.

Mr. Elkins, I, too, am a little bit concerned, as was Mr. Snyder, that I do not have the position of EPA with reference to title I. But my concern is, I am sure, different from Mr. Snyder's. I did not attend the hearing, and as a result, I do not have knowledge about how you feel about title I. I dislike the whole bill intensely. I do not like title III at all. And I would appreciate knowing, in 25 words or less, if you can do it, the opinion of EPA on title I of 3942, and in addition, I would like to know, if it was not in your prepared testimony, was it in response to questions when you did appear before this committee, because I would like to get that testimony if it was.

So maybe the last part first, and then in 25 words or less, a review of title I.

Mr. ELKINS. I was before this committee for 2 hours and answered numerous questions by the committee on all aspects of those bills. A great number of the question were on title I. The testimony which I gave before the Interstate and Foreign Commerce Committee laid this out in a more formal manner, but essentially, the opinions were the same.

Basically, we and the administration have difficulty with the entire bill. We are particularly concerned, of course, with title III in the Senate version. But we have difficulties with the way in which the planning is strictly voluntary, without any requirement

or any mechanism by which airports which are unwilling to plan could be encouraged to plan. Some major airports have refused to do airport planning in the past, and there is no guarantee that they will do any planning under title I of this bill.

Ms. FERRARO. Excuse me for just 1 minute. So you are saying that if there is a noncompliance by an airport, that there is no provision for punishment for noncompliance?

Mr. ELKINS. Well, there is no requirement that they do any planning if they do not want to. For instance, both Philadelphia and Chicago airports have indicated that they do not want to do an airport plan. And until recently, Atlanta took that position. That is perfectly within their prerogatives to say either "We do not have a noise problem"—that is what Mayor Daley used to say about O'Hare Airport—or to just say they do not see that airport planning is efficacious. They are entitled to that opinion. The difficulty is that it leaves those who live around the airports, but not in the same jurisdiction, with no recourse except to depend entirely on the Federal Government and whatever source control the Government might provide. This is not going to be adequate.

Ms. FERRARO. You have been talking about this noise with both of these bills. How much of an impact does it really have, and are we really talking about something that is very important, or are we just talking for the sake of talking?

I have heard, during the course of the previous hearings, that you cannot really tell the difference if you retrofit an engine, and there is a difference of between 5 and 7 decibels' reduction in noise. Does that make a difference? Are we all just talking for the sake of talking, as far as the EPA is concerned?

Mr. ELKINS. We think that there is a lot of misunderstanding of this discussion of 5 decibels.

We feel, first of all, that the way in which many people have put that argument forward is incorrect. They are talking in those cases about single flyovers, that is, whether a person standing on the ground is able to tell the difference between one plane that flies over and another immediately following which flies over that is less than 5 decibels quieter.

We think this is the wrong question to ask. We agree with the scientific community that the best way to measure the impact of aviation noise is not on people's reaction to a single flyover, but on the day-in/day-out reaction when people are exposed to a series of planes at various levels, culminating in a set level day in and day out.

The studies are not conclusive in this regard, but they show a clear trend that the 5 decibel number, which was so emphasized in the Senate version, is clearly at the high end of the data. There are studies and communities where you can see a statistical difference between people's reactions, even down to the 1-decibel level. We feel this is the appropriate way to view the problem.

Even on the 1978 single flyover, though, at Dulles, which was done for the benefit of a number of Members of Congress, it showed that 80 percent of the people who were there could tell the difference between aircraft which were less than 5 decibels apart.

It is interesting that in the testimony before the other committee last week, when pressed on that particular point, the Air Transport

Association witness said, "Well, OK, but what relevance does that have to real life?" and he then backed up to what is the day-in and day-out reaction.

So I am afraid we see people sort of arguing in circles. First, they argue, let us look at the cumulative day-in and day-out reaction, and then they move over to let us look at the single event. If one does not hold water, they move to the other.

In our view, the levels below 5 decibels are distinguishable, both on the single event basis, and definitely on a cumulative event basis, and therefore, retrofit, or changes in airplanes--let us put it that way--of less than 5 decibels are meaningful.

Ms. FERRARO. The reason we are here, of course, is to determine whether or not your efforts with reference to aviation are duplicitous as far as FAA is concerned.

Do you see that you are approaching it from a different viewpoint? Or, what do you see as the difference between your two functions?

Mr. ELKINS. I think that, looking at this in the historical perspective and going back to one of the questions earlier, many of the proposals which we have sent to the FAA and asked them to look at seriously are ones where they had indicated an interest in the past by putting out an advanced notice that they wanted some general comment on these areas--but had not proposed actual rules.

Ms. FERRARO. Excuse me, if I may just interrupt you for 1 minute. In your testimony, you refer to, I believe, 11 proposals.

Mr. ELKINS. That is correct.

Ms. FERRARO. And I think you referred to the two that they did not respond to.

Mr. ELKINS. That is correct.

Ms. FERRARO. What about the other nine? What type of proposals did you make notice of--and I am sorry, I did miss some of the questioning.

Mr. ELKINS. For instance, we proposed that they regulate small, propeller-driven aircraft, and they rejected that, except for small, minor pieces of the proposal. They rejected that by saying they did not think there was a problem with those aircraft, and that the technology was really not available to reduce the noise. These are the aircraft which, in many cases, dominate the noise environment around general aviation airports, a problem that is growing, in our view.

We also made recommendations with regard to minimum altitudes, which they did not accept, although they did propose a system for approach to airports which they felt was more efficacious. So it is hard to prove a cause and effect relationship. I am sure they would argue they generated that entirely on their own. But we felt that identifying this as a possible way of abating noise was a useful contribution which we made, whether they accepted our exact ideas or not. And so on through the list--recommendations with regard to retrofit of smaller business jets, future supersonic transport noise levels, et cetera.

Ms. FERRARO. So what you have done is you have focused in specifically on the noise problem and made your recommendations based upon your expertise to the FAA; is that correct?

Mr. ELKINS. Yes. At the time that we started this process, there were very few FAA regulations on the books, or even in proposed form.

Shortly after this law was enacted and we were put into an oversight role, the FAA increased their staff dramatically and began to be quite active in the area, which we were glad to see. The result has been that they have proposed a number of rules and promulgated some of them. Although we do not agree with all the things that they have done—we would like to see them go further in many regards—we think that they have made some progress, and we would like to take some credit for that.

Ms. FERRARO. Mr. Chairman, I have no further questions, but I would formally request that Mr. Elkins' testimony, the full testimony with reference to his questions and answers, that were given during the course of his previous appearance here, be made available to me, if I might have it.

Mr. ANDERSON. Can you make those available to us, Mr. Elkins?

Ms. FERRARO. I do not think he would have it. What I am asking for is the transcript of the testimony.

Mr. ELKINS. It is the transcript, yes.

Mr. ANDERSON. Mr. Mineta?

Mr. MINETA. Thank you, Mr. Chairman.

I apologize to Mr. Elkins for not having been here for his presentation. But I was just wondering, with regard to your coordination with the various departments, for example, with the Department of Transportation in the matter of traffic noise—what kind of coordination takes place between EPA and the Department of Transportation or the Federal Highway Administration; also what kind of priority do you give to that type of noise problem in comparison in relationship, to your coordination with the FAA on noise problems from aircraft?

Mr. ELKINS. We have a great deal more activity in the traffic noise area, so therefore, we find ourselves interacting with DOT in a number of different ways, and probably, more frequently. Some of our regulations are enforced by DOT, so we coordinate as we write those regulations and then work with them on the enforcement of the regulations.

In other cases, we are working with States and localities, in terms of controlling noise in the use of products, such as trucks, motorcycles, and buses.

Mr. MINETA. Do you give it higher priority as far as traffic noise because EPA can promulgate rules and regulations that directly impact on the manufacturers of cars, trucks, motorcycles, as compared to aviation noise, in which case EPA can only make recommendations to the FAA or the Department of Transportation?

Mr. ELKINS. That is one of the reasons, and the other reason is that there are more people impacted by traffic noise than by aviation noise.

Mr. MINETA. And that is in this category of 6 to 7 million in aviation as compared to the 25 million, as far as traffic noise is concerned?

Mr. ELKINS. That is right—let me check with Mr. Schettino, because I did that from memory.

Mr. SCHETTINO. That is correct.

Mr. ELKINS. Yes; it is in the ball park.

Mr. MINETA. Now, as you develop criteria or standards or exchange of information relating to on noise-related health problems, do you coordinate with HEW on those issues or not?

Mr. ELKINS. Yes, we do. In fact, we have joint studies with NIH. One of our active ones now is a study of the cardiovascular effects of noise on primates, using monkeys as the test animal. We are jointly funding this study at the University of Miami, and finding very dramatic effects in terms of blood pressure.

Mr. MINETA. Is that just noise generally; as opposed to aviation noise?

Mr. ELKINS. That is right. This is across the board.

Mr. MINETA. And have you done anything in pursuing the health impacts as related specifically to aviation noise?

Mr. ELKINS. Not specifically, no. We have been looking across the board at all noise sources.

Mr. MINETA. Do you have any funding available for studying the impacts of aviation noise on health?

Mr. ELKINS. No. In the Senate version of the bill now before this committee there is an additional authorization of \$500,000 for us to look specifically at the health effects of aviation noise.

Mr. ANDERSON. Now, as it relates to your work with the FAA in the development of the Federal response to aviation noise, have you, or do you intend to work for increased emissions standards on what we would refer to as stage-4 and stage-5 airplanes?

Mr. ELKINS. Yes, we have made those proposals to the FAA, and are in the process now of improving the data base for them so that we can have further dialog with the FAA. They have not rejected those ideas, although I think it is clear from our discussions that they are not enthusiastic about them.

We feel that further justification can be made for them, both on the technology side and on the health and welfare side, and we expect to continue that work and to seek agreement with the FAA about what is feasible and what is in the interest of both transportation and noise control.

Mr. MINETA. Could we get a copy of what you have submitted to FAA?

Mr. ELKINS. Yes, we would be glad to provide that to you.

Mr. MINETA. Mr. Chairman, I ask unanimous consent that it be made part of the record at this point.

Mr. ANDERSON. No objection, so ordered.

[The following was received for the record:]

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

RECOMMENDED

NOTICE OF PROPOSED RULEMAKING

ON

NOISE LEVELS

FOR

TURBOJET POWERED AIRPLANES

AND

LARGE PROPELLER DRIVEN AIRPLANES

2 AUGUST 1976

Department of Transportation
Federal Aviation Administration

[14 CFR Part 36]

[Docket No. ; Notice No. 76-]

Noise Levels
for
Turbojet Powered Airplanes
and
Large Propeller Driven Airplanes
Notice of Proposed Rule Making

In accordance with a recommendation made by the Administrator of the Environmental Protection Agency, the Federal Aviation Administration is considering an amendment to Appendix C of Part 36 of the Federal Aviation Regulations which would reduce the noise levels for turbojet powered airplanes and subsonic large propeller driven airplanes to levels as low as is consistent with safe technological capability.

Interested persons are invited to participate in the subject rule making process by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket, GC-24, 800 Independence Ave., S.W., Washington, D.C., 20590.

All communications received on or before _____ will be considered by the FAA Administrator before taking action on the proposed rule. The concepts contained in this notice may be changed in the light of comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

Under the requirements of Section 7(a) of the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234) the Administrator of the Environmental Protection Agency conducted a study of aircraft and airport noise and submitted a report thereon to the Congress. (Ref. 1, Report on Aircraft/Airport Noise, Senate Committee on Public Works, Serial No. 93-8, Aug. 1973).

Concurrent with the Aircraft/Airport Noise Study, the EPA also prepared a general document of criteria (Ref. 2) in conformance with Section 5(a)(1) of the Noise Control Act. That document reflects the scientific knowledge most useful in indicating the kind and extent of all identifiable effects on the public health and welfare which may be expected from differing quantities of aircraft noise.

Subsequently, in March of 1974, in accordance with Section 5(a)(2) of the Noise Control Act, the EPA prepared a technical document (Ref. 3) containing the levels of environmental noise, the attainment and maintenance of which (in defined areas under various conditions) that are requisite to protect the public health and welfare with an adequate margin of safety. The key findings of that document may be summar-

ized in pertinent part as follows:

- (1) The preferred measure for cumulative noise exposure is Leq, the energy average A-weighted sound level integrated over a 24-hour period, or Day-Night Level, Ldn. Ldn is essentially the same as Leq, except that the sounds occurring during night hours (2200 - 0700) are weighted by an adjustment factor of 10 dB to account for increased annoyance of noise during night hours.
- (2) An outdoor Ldn of 55 dB has been identified as requisite to protect public health and welfare with an adequate margin of safety from the effects of interference and annoyance on outdoor activities.
- (3) An Leq (24) of 70 dB at the ear has been identified as requisite to protect public health and welfare with an adequate margin of safety from the effects of permanent hearing loss.

Under Section 611 of the Federal Aviation Act, as amended by the Noise Control Act of 1972, the Administrator of the EPA is required to submit to the Administrator of the FAA proposed regulations to provide such control and abatement of aircraft noise and sonic boom (including control and abatement of aircraft noise through the exercise of any of the FAA's regulatory authority over air commerce or transportation or over aircraft or airport operations) as the Administrator of the EPA determines is necessary to protect the public health and welfare. In accordance with the foregoing requirement, the EPA published in the Federal Register on February 19, 1974, (39 F.R. 6112)

a "Notice of Public Comment Period" (Ref. 4) containing a synopsis of the proposed aircraft and airport rules it is considering to achieve a satisfactory level of aircraft noise control and abatement for the protection of the public health and welfare.

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

Flight procedures noise control.

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

Source noise control.

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

Airport operations noise control.

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

This proposed rule, identified as Item (6), above, is one of the five rules whose purpose is to implement noise control at the source. As proposed herein, the rule would reduce the compliance noise levels and would require specific changes in applicability, takeoff, and approach test conditions as prescribed in Appendix C of Part 36 for

subsonic turbojet engine powered airplanes and subsonic large propeller driven transport category airplanes (more than 12,500 pounds). The proposed rule would not apply to small propeller driven airplanes since those airplanes were covered in a recent amendment to Part 36 (Amt. 36-4) and a substitute proposal recommended by the EPA (NPRM 74-39, 40 F.R.1061). However, in the event that Part 36 is made applicable to supersonic airplanes in accordance with the recommendations by the EPA (NPRM 75-15; 40 F.R. 14093), the amendments to Appendix C proposed herein would also be applicable to those airplanes. This extension of Part 36 to supersonic airplanes would be accomplished, as proposed in NPRM 75-15, by changing the words "subsonic turbojet airplanes" as they appear in the Applicability provisions of §36.1(a) to read "supersonic and subsonic turbojet powered airplanes".

The EPA believes that the achievement of the proposed levels is necessary in order to provide increased relief from aircraft noise and protection to the public health and welfare. The EPA also believes that the proposals, which would require time-phased incremental reductions in aircraft noise, are economically reasonable, technologically practicable, and appropriate for those airplanes.

A. References

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

1. "Report on Aircraft/Airport Noise", Report of the Administrator of the Environmental Protection Agency in compliance with Public Law 92-574, Senate Committee on Public Works, Serial No. 93-8, August 1973.
2. "Public Health and Welfare Criteria for Noise", EPA Technical Document 550/9-73-002, 27 July 1973.
3. "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety", EPA Technical Document 550/9-74-004, March 1974.
4. "Aircraft and Airport Noise Regulations", Notice of Public Comment Period, Federal Register (39 FR 6142), 19 February 1974.
5. "Noise Standards for Aircraft Type Certification (Modifications to FAR Part 36)", EPA Project Report, 2 August 1976.
6. "A Scheme for Modification of Annex 16 Noise Level Requirements", ICAO CAN/4-WP/39, United States, 20 January 1975. Also, "Subsonic Transport Category Large Airplanes and Subsonic Turbojet Powered Airplanes, Proposed Noise Reduction Stages and Acoustical Change Requirements", FAA NPRM 75-37, 40 FR 51476, 5 November 1975.
7. "Committee on Aircraft Noise: Fourth Meeting", ICAO CAN/4-WP/64, Report of Fourth Meeting Submitted to the Council, 13 February 1975.

8. "Civil Aviation Research and Development Policy Study", Joint DOT-NASA: Report, DOT-TST-10-4 and NASA SP-265; Supporting Papers, DOT-TST-10-5 and NASA SP-266; March 1971.
9. "Aircraft Noise Reduction Technology", A Report by the National Aeronautics and Space Administration to the Environmental Protection Agency for the Aircraft/Airport Noise Study, NASA TMX-68241, 30 March 1973.
10. H.H. Hubbard, and D.J. Maglieri, "A Brief Review of Air Transport Noise", Noise Control Engineering, November-December 1974.
11. "Aeronautical Propulsion Conference", Program Preprint, NASA Lewis Research Center, 13-14 May 1975.
12. "Noise Source Abatement Technology and Cost Analysis Including Retrofitting", Report of Task Group 4, EPA NTID 73.5, 27 July 1973.
13. J.O. Powers, "Future Noise Requirements for Commercial Aircraft", AIAA Paper No. 73-1290, AIAA/SAE 9th Propulsion Conference, Las Vegas, 5-7 November 1974.
14. A.L. McPike, "Toward Reducing the Impact of Aircraft Noise - A New Approach to Aircraft Noise Certification", Douglas Paper 6371, American Society of Civil Engineers, San Francisco, 24-26 March 1975.
15. V.L. Blumenthal, et. al., "A Positive Approach to the Problems of Aircraft Noise", AIAA Paper No. 73-1157, Montreal, 29-30 October 1973.
16. J.S. Gibson, "The Ultimate Noise Barrier - FAR Field Radiated Aerodynamic Noise", Inter-Noise '72 Proceedings, Washington, D.C., 4-6 October 1972.
17. J.S. Gibson, "Non-Engine Aerodynamic Noise Technology and Impact", Lockheed-Georgia Co. Information Brief IB7301, 6 April 1973.
18. "Predicted Noise Levels for Refanned Aircraft", Letter from W.H. Roudebush (NASA) to W.C. Sperry (EPA), 11 February 1975, Revised by Briefing Charts, 25 February 1975, and "Initial Report on DC-9 Refan Flight Test Program", W.H. Roudebush, 26 June 1975.
19. K.L. Abdalla and J.A. Yuska, "NASA Refan Program Status", Society of Automotive Engineers, Air Transportation Meeting, SAE 750592, Hartford, 6-8 May 1975.

20. "Noise and Performance Estimates", Letter from Ray E. Bates, (Douglas) to J.C. Schettino (EPA), 16 April 1975, and Letter from A.L. McPike (Douglas) to W.C. Sperry (EPA), 25 July 1975.
21. "Recommendations for Revised Annex 16 Scheme and Noise Level Requirement", The Boeing Co., Draft 12 December 1974.
22. "Information on 727-300B and 7X7 Airplanes", The Boeing Co., Briefing to EPA on 14-15 May 1975, 5 June 1975, and Letter from R.E. Russell and H.W. Withington (Boeing) to W.C. Sperry (EPA), 4 June 1975, and 15 July 1975.
23. "BAC One-Eleven 700 Series", British Aircraft Corporation Brochure TSW 2508, August 1974, and "BAC-111-800 Series", Briefing Paper Received 20 May 1975.
24. "New Wide-Body Transport Plan Evolving", Aviation Week & Space Technology, 13 October 1975.
25. "DC-X-200 Melds DC-10, New Technology", Aviation Week & Space Technology, 20 October 1975.
26. "1977 NASA Authorization", Hearings before the Subcommittee on Aviation and Transportation R&D of the Committee on Science and Technology, U.S. House of Representatives, October 15, 16, November 3, 4, 5, and 10, 1975, No. 34, Volume II, Part 1.
27. G.D. Brewer, "Liquid Hydrogen--A Logical Choice to Fuel Future Commercial Airplanes", Lockheed California, Co., ICAO Bulletin, February 1976.
28. "CFM 56 Briefings", CFM International, S.A., May 1976.
29. "Canadair Sees Big Lear Star 600 Market", Aviation Week and Space Technology, 26 July 1976.

B. Regulatory Background.

To date, the FAA has adopted the following source noise control regulations which have a significant influence on aircraft noise.

- (1) Part 36, "Noise Standards: Aircraft Type Certification", which became effective on December 1, 1969, (34 F.R. 18355), prescribed noise measurement, noise evaluation, and noise levels for the type certification, and changes to type certificates, for subsonic transport category airplanes, and for subsonic turbojet powered airplanes regardless of category. There is no similar set of standards for supersonic airplanes although the preamble to Part 36 when that Part was adopted, stated that additional rule making would be proposed at the earliest possible date for the noise certification of supersonic airplanes. However, it should be noted that the EPA has proposed such a rule for supersonic airplanes which was published in the Federal Register inviting public comments (Notice 75-15, 40 F.R. 14093). In addition, public hearings were later conducted by the FAA with respect to the proposals contained in that notice. To date no final rulemaking has been adopted in regard to EPA's proposal.
- (2) Part 36, "Noise Standards: Aircraft Type Certification" was amended on October 26, 1973, (Amdt. 36-2, 38 F.R. 29569) to require new production turbojet and transport category subsonic airplanes to comply with the noise requirements of Part 36, regardless of the date of the type certification for those

airplanes. That amendment changed the title of Part 36 to "Noise Standards: Aircraft Type and Airworthiness Certification" to conform to the substance of Amendment 36-2, and established the following dates by which new production airplanes of older type designs must comply with the noise requirements of Part 36.

- (a) 1 December 1973 for airplanes with maximum weights greater than 75,000 pounds, except for airplanes that are powered by Pratt and Whitney JT3D series engines;
 - (b) 31 December 1974 for airplanes with maximum weights greater than 75,000 pounds which are powered by Pratt and Whitney JT3D series engines; and
 - (c) 31 December 1974 for airplanes with maximum weights of 75,000 pounds and less.
- (3) Part 36 was then amended, effective 20 January 1975 (Amt. 36-3, 39 F.R. 43830) to require an applicant for an acoustical change approval to show that modifications of certain turbojet or transport category airplanes will not increase the takeoff or sideline noise levels of those airplanes. Under that amendment the following changes were made to the acoustical change provision of Part 36 which significantly decreased community noise impact by preventing methods of circumventing that provision:
- (a) Thrust reduction is not permitted;
 - (b) Test airspeed is more precisely specified, and

(c) The quietest approved configuration for the highest approved takeoff weight must be used.

- (4) Effective 7 February 1975 (Amt. 36-4, 40 F.R. 1029), the FAA extended the acoustical change approval provisions, included them in a new §36.7, and introduced new noise standards for normal, utility, acrobatic, transport, and restricted category propeller driven small airplanes (12,500 pounds or less maximum weight). However, it should be noted that the EPA objected to Amendment 36-4 because it believed it was too lenient and proposed a rule which was significantly more stringent (Notice 74-39, 40 F.R. 1061). The EPA's substitute proposal was published in the Federal Register and public comments were invited to that proposal. In addition, a public hearing was later conducted by the FAA with respect to the proposals contained in that notice. To date no final rulemaking has been adopted in regard to EPA's substitute proposal.
- (5) An advance notice of proposed rulemaking was published on August 6, 1970 (ANPRM 70-33, 35 F.R. 12555) proposing noise requirements for the type certification of civil supersonic airplanes. In addition, pursuant to section 611(c)(1) of the Federal Aviation Act of 1958, the EPA recommended the adoption of an amendment to Part 36 which would require certain civil supersonic airplanes to comply with the noise level requirements of Appendix C of Part 36 (NPRM 75-15; 40 F.R. 14093).

Although, Part 36, which was adopted in December 1969, was the first type certification regulation for aircraft noise prescribed by any country, the development of the basic concepts inherent in that Part represents the experience of the U.S. and foreign governments as well as the U.S. and foreign private industry. As a result, the Council of ICAO, in April 1971, adopted as Annex 16 to the Convention of International Civil Aviation, aircraft noise rules, containing standards and recommended practices that are essentially the same as those in Part 36, but slightly more lenient.

Part 36 provides the requirements for the issue of a type certificate signifying that an aircraft type design has been demonstrated to conform to FAA standards on noise. Other parts of the Federal Aviation Regulations pertain exclusively to airworthiness. Each aircraft requires an airworthiness certificate which signifies that the specific aircraft has been manufactured in accordance with its FAA certified type design (including Part 36) and has subsequently been maintained according to regulations.

The contents of Part 36, in addition to preamble, applicability, effective dates, and enforcement, include four technical appendixes as follows:

- (1) Appendix A contains requirements for acquiring, processing, correcting, reducing, and reporting of data relating to noise, meteorology, and aircraft performance and flight paths,
- (2) Appendix B contains requirements for computing the noise evaluation measure denoted as effective perceived noise level

(EPNL) in units of EPNdB which includes the effects of the flyover noise duration and the maximum tone,

- (3) Appendix C contains requirements for the noise measuring points, compliance noise levels, and the takeoff and approach flight test conditions, and
- (4) Appendix F contains requirements pertaining exclusively to propeller driven small airplanes (12,500 lb. maximum weight) and is independent of Appendixes A, B, and C.

The original purposes of Part 36 were:

- (1) to provide requirements which would influence the design of aircraft to include implementation of source noise control technology to the maximum extent feasible,
- (2) to obtain meaningful noise levels for specific types of aircraft which would be useful in predicting the noise impact in airport neighborhood communities, and
- (3) to set standards and recommended practices for the acquisition and reduction of repeatable and reproducible data.

C. Proposed Amendments.

Except for the amendment to the applicability provisions of §36.1(a)(1), the amendments recommended by the EPA in the following paragraphs of this notice of proposed rulemaking are directed to the noise measurements, levels, and tests in Appendix C of Part 36. Further recommended rule changes affecting the standards contained in Appendices A and B of Part 36 may be submitted by the EPA in a separate document. Upon receipt of those recommendations by the FAA they will be published in the Federal Register as a separate notice of proposed rulemaking in accordance with Section 611(c) of the Act.

The amendment to §36.1(a)(1) referred to above does not involve a substantive change. In view of the recent amendment (effective 7 February 1975) which expressly refers to small propeller driven airplanes (Amt. 36-4; 40 F.R. 1029), other propeller driven airplanes covered herein are referred to as "large propeller driven airplanes". The use of this term instead of "transport category large airplanes", as used in Amendment 36-4, should avoid any misunderstanding as to which propeller driven airplanes are intended to be covered by this proposal.

Included in the following paragraphs are recommendations pertaining to "acoustical changes" and "major acoustical changes". As defined in Part 36, any voluntary change in the type design of a transport category or turbojet engine-powered airplane that may increase the noise levels created by that airplane is an acoustical change.

Generally, the most important acoustical changes are related to airplane growth. A new airplane design is usually grown over its lifetime by increasing its capacity, range, or both. The recommendations on acoustical change approvals included herein would apply noise limits to airplane weight increases as proposed by the FAA.

The recommendations herein also include a definition for a major acoustical change which makes a distinction between changes in type designs that are a result of normal growth of older technology equipment and those that are the result of the applications of current technology equipment. The purpose is to restrict the production of new airplanes incorporating current technology equipment but which do not include the noise control technology capability of that equipment.

C1 Noise Measurement and Evaluation.

Section C36.1 of Appendix C, which specifies the noise measuring points and the airplane takeoff and approach test conditions to achieve the noise levels of that Appendix, states in part that compliance with Appendix C "must be shown with noise levels measured and evaluated as prescribed, respectively, by Appendix A and Appendix B of this Part [Part 36], or under approved equivalent procedures".

§36.101 and §36.102 contain language which expressly authorizes the use of an "approved equivalent procedure" for the noise measurements and evaluations prescribed in Appendices A and B, respectively. However, it is to be noted that Part 36 does not contain a similar provision containing language which expressly authorizes the use of an "approved equivalent procedure" for the test procedures (including the location of measuring points and takeoff and approach test conditions) prescribed in Appendix C. In the absence of such an express authorization for Appendix C, it is not clear whether the above quoted provision of §C36.1 was intended to authorize the use of an "approved equivalent procedure" to show compliance with the test procedures in Appendix C, as well as Appendices A and B.

The EPA believes that flexibility should also be provided for compliance with the procedures prescribed in Appendix C. To make this position unmistakably clear it is proposed to add a sentence at the end of §C36.1 expressly stating that approved equivalent procedures may also be permitted for compliance with the procedures in Appendix C.

C2 Noise Measuring Points.

Section C36.3 of Appendix C requires the noise levels prescribed in that Appendix to be achieved at specified measuring points for (a) takeoff, (b) approach, and (c) sideline.

(a) Takeoff.

Experience derived from FAA noise certification tests since 1969 has shown that a measuring point located at 3.5 nautical miles from the start of the takeoff roll as specified in §C36.3(a) is satisfactory for determining noise levels which are produced by relatively noisy airplanes. However, for airplanes which have substantial applications of noise control technology, or have relatively large takeoff climb angles, or both, the noise signal received at the 3.5 nautical mile measuring point may be masked by normal background noise at the test site. To insure consistent results, the EPA believes that standardized, alternate takeoff procedures should be provided in Appendix C for those airplanes whose noise measured at the prescribed measuring point would not be reliable because signal to noise ratios (S/N) are too small.

The EPA believes that the adoption of one of two alternate procedures as a standardized procedure would provide a solution to the problems now experienced. The first procedure would include in §C36.3(a) an alternate takeoff noise measuring point located nearer to brake release than 3.5 nautical miles. Under this procedure the microphone would be nearer to the airplane flight path thus increasing the signal to noise ratio. The second procedure would retain the

standard reference distance of 3.5 nautical miles from brake release, but change the flight procedure as specified in proposed §C36.8 so that the airplane flight path would be horizontal and nearer to the microphone. Although both procedures have merit, the EPA has recommended the second one since it has a precedent in the noise measuring procedures used for propeller driven small airplanes.

Under Amendment 36-4, referred to in the regulatory background for this proposal, small propeller driven airplanes are required to demonstrate compliance with the prescribed noise levels of Part 36 by means of horizontal flights at a height of 1000 feet over a noise measuring station. However, the noise levels determined by means of the horizontal flyover must be corrected for both climb performance and speed. The formula used for that correction yields a level in decibels which, when added algebraically to the measured noise level of the horizontal flyover, approximates the noise level at a specified reference distance from the start of the takeoff roll. The EPA believes that it is reasonable to extend that horizontal flight procedure to all airplanes which cannot be measured reliably for takeoff noise at the 3.5 nautical miles measuring point.

Another reason for the EPA's preference for the horizontal flyover procedure, where appropriate, is that it is convenient. The standard takeoff noise test requires an applicant to execute the normal takeoff and climbout procedure for the airplane being tested with the microphone at 3.5 nm from the takeoff roll. In most cases the S/N can be judged satisfactorily during that test. If the S/N is not adequate,

however, the proposed alternate flyover procedure would permit the applicant to conduct the remainder of the tests (required to demonstrate compliance with that airplane) by circling and flying horizontally over any approved microphone without an undue delay or added expense.

In principal, the noise levels at an alternate takeoff measuring point could be corrected to approximate the levels at the 3.5 nm reference distance. However, in practice the results for some applications would be less reliable than those derived from the horizontal flight procedure. The reason is that airplanes generally are not stabilized with respect to configuration, speed, and climb angle until they have reached a height above airport of at least 400 feet and that it is not considered safe to execute thrust cutback for noise abatement below about 700 feet. Consequently, the use of an alternate measuring point, located nearer to the climb path than the 3.5 nm point, might result in noise levels that have been significantly influenced by airplane climb performance below heights of 400 and 700 ft, contrary to the intent of the takeoff test procedure.

Based upon the foregoing reasons, the EPA recommends, as proposed herein, that Appendix C be amended by adding a new §C36.8 to include the second alternate takeoff test procedure as described above in those cases in which the signal to noise ratio is inadequate. However, as distinguished from the correction formula specified in Amendment 36-4 for small propeller driven airplanes, the correction formula proposed herein would be based upon both climb performance and speed.

In support of that correction formula the EPA points out that the horizontal flight noise certification test, by itself, will not provide sufficient information to make a judgment on the relationship between airplane climb performance and noise exposure on the ground. Two airplanes with the same engines would be expected to produce about the same noise level over the measuring station at a height of 1000 feet, even though the total weight of one airplane might be substantially greater than the other. However, the higher performance airplane (greater thrust/weight ratio) would be expected to have the capability to produce smaller contour areas and, hence, less community noise impact.

The foregoing deficiency in the horizontal flyover procedure can be remedied by a correction formula with factors relating to airplane performance (both climb and speed) and the reference distance (3.5 nautical miles or 21,266 feet). The development of the correction formula for climb performance, applicable to turbojet powered airplanes, is given in Reference 5 and expressed as:

$$C = 60 - 20 \log [(21266 - D35) \sin \alpha + 35]$$

where:

$$\alpha = \arcsine [(R/C) / (VY)].$$

The climb correction C is the value in decibels which, when added algebraically to the measured noise level at 1000 feet (horizontal flyover), approximates the noise level at the 3.5 nautical miles (21,266 ft) reference distance. The climb angle α in degrees is dependent upon

the rate of climb (R/C) in feet per minute corresponding to the airplane climb speed (VY) in feet per minute equivalent to $V_2 + 10$ knots, or greater if approved. The takeoff distance D35 in feet is the horizontal projection from start of takeoff roll to a point on the runway at which the airplane is at a height of 35 feet above the runway. The climb correction formula is based upon the assumption that the angle of climb is relatively small which is appropriate for all Part 36 airplanes (the error is less than 0.5 dB at 12 degrees).

The climb correction C adjusts the measured noise level under test conditions to the expected noise level at the reference distance (3.5 nm) from start-of-roll. In addition, under test conditions (horizontal flight, at 1000 feet height above the test site with maximum thrust) the aircraft can be expected to fly over the test site at a speed greater than the takeoff climb speed. Therefore, the duration of the sound, a factor to be considered in human subjective reaction to noise (and included in EPNL), would be less under the horizontal flight path than under the climb path. In order to make a proper assessment of the noise measured under the simplified test conditions, the noise level corrected for climb performance must be further corrected to account for the change in speed which results in a change in noise duration. The speed correction formula appropriate for this purpose is:

$$S = 10 \log (VH/VY)$$

Where: VH is the speed, averaged for all test flights, at the aircraft position for which the tone corrected perceived noise level is

maximum with the aircraft operating at takeoff thrust and in horizontal flight 1000 feet over the measuring point. S is the speed correction in decibels to be added algebraically to the measured noise level. The speed correction S would correct the measured noise level to the EPNDB values that would result from the actual climb speed.

In summary, the resulting performance correction, expressed in dB, which should be added algebraically to the noise levels, expressed in EPNdB, measured 1000 feet below a turbojet engine powered airplane in horizontal flight at maximum thrust is:

$$\begin{aligned} P &= C + S \quad (\text{For turbojet airplanes}) \\ &= 60 - 20 \log [(21266 - D35) \sin \alpha + 35] + 10 \log (VH/VY) \end{aligned}$$

For propeller driven large airplanes, the only change in the performance correction P is the takeoff distance included in the climb correction C as follows:

$$\begin{aligned} P &= C + S \quad (\text{For propeller driven large airplanes}) \\ &= 60 - 20 \log [(21266 - D50) \sin \alpha + 50] + 10 \log (VH/VY) \end{aligned}$$

The takeoff distance D50 in feet is the horizontal projection from brake release to a point on the runway at which the airplane is a height of 50 feet above the runway. All other symbols are as defined previously.

(b) Approach.

Experience, derived from FAA noise certification tests since 1969 has shown that the measuring point for approach (1 nautical mile from threshold) as prescribed in §C36.3(b) is satisfactory for determining

airplane noise levels that result from stabilized approach operations conducted along a single segment constant glide angle. However, the EPA believes that if other approach procedures, such as the two-segment approach recommended by that agency in a separate proposal for the reduction of approach noise, are standardized, then an additional measuring point (or points) farther from the runway should be specified for approach noise certification testing.

(c) Sideline.

Experience, derived from FAA noise certification tests since 1969 has also shown that the sideline measuring point, on a line parallel to and 0.25 nautical miles from the extended centerline of the runway, is satisfactory for all turbojet engine powered airplanes regardless of the number of engines. For uniformity, the EPA recommends that the alternative sideline measuring point at a distance of 0.35 nautical miles permitted for airplanes powered by more than three turbojet engines, be eliminated from §C36.3(c).

C3 Noise Levels.

The objective of Part 36 is to provide requirements which would influence the design of aircraft to include implementation of source noise control technology to the maximum extent feasible. Source noise control consists of the application of basic design principles or special hardware to the aircraft engine/airframe combination for the purpose of minimizing the generation and radiation of noise from that aircraft. The technology of source noise control is time-dependent in the sense that it is based upon the results of past, present, and future programs of research, development, and demonstration (RD&D) which may be classified as current, available, and future noise control technology.

As used in this document, current technology means "shelf item" hardware and commonly known state of the art techniques and procedures which have been used effectively by most manufacturers for many applications.

Available technology means "shelf item" hardware and commonly known state of the art techniques and procedures which have been used effectively by some manufacturers for some applications. The term also includes the results of RD&D which have not been put into practice but are available for implementation. Some performance testing may still be necessary, but the technology has been certificated for airworthiness or, by adequate ground and/or flight testing, determined to be capable of being certificated.

Future technology means the results of RD&D programs now in

progress which have not been verified, but the results to date indicate high potential to a reasonable degree of confidence. The term includes present RD&D programs which are being conducted with sufficient resources of manpower, funding, and time to carry the program to conclusion. Definitive results are expected in the near future for acoustical and operational performance, economics, and flight safety. The nature of the expectations is positive, because predictions of non-viable results would have been cause for earlier termination of the RD&D programs.

The application of the foregoing source noise control technology may be directed to either existing or newly produced aircraft. In the case of existing aircraft, source control is applied by retrofitting acoustical treatment to the engines/nacelles during a non-operative or shutdown period. As used here, acoustical treatment means any hardware or mechanical device, applied either singly or combined to the inlet and primary and secondary exhausts, that either will absorb sound or otherwise effect a noise reduction at the Part 36 measurement points. In the case of new production aircraft, source control may be applied during the manufacturing process to either new type design aircraft, or older type design aircraft. In the case of acoustical treatment, the source control measures available for existing or newly produced aircraft of the same type design are essentially the same since the treatment that is effective for one will be equally effective for the other. However, the most practical use of technology to achieve maximum noise control is the inclusion of such technology

in the design and development of new aircraft types. Subsequent modifications of the aircraft design such as retrofit hardware are always the less efficient, but often necessary, use of technology for the source control of aircraft noise.

In order to achieve the lowest practicable noise levels for all aircraft, regardless of the date of type certification, the EPA believes that regulations for the source control of aircraft noise should be constructed to fully represent the use of the three time-dependent technology options (current, available, and future) for the following four classes of aircraft:

- (1) Existing Aircraft,
- (2) New Production Aircraft of Older Type Design,
- (3) New Production Aircraft with Acoustical Changes to Older Type Design, and
- (4) New Production Aircraft of New Type Design.

Although the compliance noise levels of §C36.5 are applicable to all four of the above classes of aircraft, only current technology prior to 1969 is represented in that Appendix. Therefore, the EPA has recommended, as proposed herein, that §C36.5 be amended to include noise levels that are substantially lower than those of Appendix C. Moreover, to encourage the implementation of noise control technology to the maximum extent feasible, the EPA also recommends that Part 36 should be reviewed every 5 years or less and updated where necessary to reflect the technology options that are practicable and appropriate for the aircraft types at that time. The comments of all interested

persons are invited in regard to the need and desirability of such a periodic quinquennial review.

Noise certification tests since 1969 show that current technology airplanes are capable of achieving substantially lower noise levels than those required by Appendix C. The data given in Reference 5 illustrates the wide range of noise levels produced by airplanes in the present fleet of two or more engine airplanes. It is to be noted that the range for all of the airplanes given in that Reference is over 40 decibels, varying from a low of about 78 EPNdB at takeoff to nearly 119 EPNdB at approach. It should also be noted that although many of the noise levels are above the Part 36 noise level curves, most are below. As a result, in 1975, the FAA in a U.S. Working Paper and subsequently in NPRM 75-37, (Ref. 6) recommended that lower compliance noise levels be adopted. However, although the Committee on Aircraft Noise, ICAO CAN/4 (Ref. 7), also recommended that the ICAO Council adopt lower compliance noise levels, they are generally less stringent than those recommended by the FAA. The noise levels recommended by the FAA represent reductions from the Appendix C levels that are dependent upon airplane weight and number of engines within the following ranges:

- (1) Sideline (5 to 9 dB),
- (2) Takeoff (1 to 10 dB), and
- (3) Approach (3 to 4 dB).

As distinguished from the FAA recommendations, the recommendations of the ICAO Committee on Aircraft Noise are independent of the

number of engines and agree with the FAA recommended levels in only two cases (sideline four engines and approach). Thus, the levels recommended by the ICAO Committee on Noise as amendments to Annex 16 represent reductions from the Appendix C levels that are dependent upon airplane weight within the following ranges:

- (1) Sideline (5 to 6 dB),
- (2) Takeoff (2 to 4 dB), and
- (3) Approach (3 to 4 dB).

The formulas for the compliance noise level curves representing Appendix C, the FAA, and the ICAO are shown in the attached Table 1. The table shows that the slopes of the curves for Appendix C and the ICAO are identical for all three measuring points. However, the slopes of the curves for the FAA agree with the Appendix C and the ICAO curves only for sideline and approach. In addition, the slope of the curve showing the FAA recommendation for takeoff is lower (4 versus 5 dB per halving of weight) than that for Appendix C and the ICAO recommendation.

(a) Current and Available Technology.

The attached Figures 1(a), (b), and (c) show the airplane noise levels listed in the attached Table 2 compared with the noise level curves for Appendix C, identified as 69 FAR 36. The 17 airplanes listed were chosen as a control group on the basis that they all meet the requirements of Appendix C. As such, they are designated "current technology" airplanes. In addition, those airplanes were selected, where feasible, to include two models of each type, one at the low and

one at the high end of their weight range in order to show the influence of growth (increase in weight or range) for that particular model. Models of pre-1969 technology airplanes which can now meet the requirements of Appendix C by means of retrofit applications of Quiet Nacelles, were not included in the control group since those airplanes are not representative of current technology airplanes in the sense of original design, although in some cases they are newly produced and may continue to be produced for many years.

The three curves shown in the attached Figure 1 represent the Appendix C requirements, the least squares mean of the 17 airplane sample, and the mean less three decibels. The upper curves, representing the existing Appendix C requirements, cannot be met by pre-1969 technology airplanes (except by retrofit). The middle curves (mean curves) show that the state of the art includes efficient, high performance airplanes such as the B747, DC-10, L-1011, A-300, Cessna 500, Falcon 10, Learjet 35, and Corvette, whose noise levels could comply with the mean levels.

Both the FAA and ICAO recommendations have merit in the sense that the compliance noise levels for new airplanes would be significantly lowered from those of Appendix C. The EPA, therefore, has no objection to either of those lower limits (or some compromise of the two) provided they are applicable only to new type design airplanes up to 1980 with more stringent requirements, as proposed herein, applicable to available and future technology airplanes.

Furthermore, the EPA believes that the compliance noise levels

representing current noise control technology to be promulgated by the FAA (whether as proposed in NPRM 75-37 or in the ICAO CAN/4 report or some compromise of the two) should be applicable to new production aircraft with major acoustical changes to older type designs as well as to those of new type designs. As defined in §21.93, a major change is any change that is not a minor change as defined therein. In addition, it includes an acoustical change where applicable. As proposed here, a major acoustical change in a type design consists of the application of current noise control technology equipment to older type design airplanes. It would not include modifications such as "Quiet Nacelles", uprated or growth versions of original equipment engines, and existing type engines different from the original equipment engines.

The major acoustical change provision makes a distinction between changes in type designs that are a result of normal growth of older technology equipment and those that are the result of the application of current technology equipment. The purpose of that provision would be to restrict the production of new airplanes incorporating current technology equipment but which do not include the noise control capability of that equipment. A pertinent example would be a new airplane, consisting of an older type design airframe, utilizing a derivative refan engine (developed by NASA primarily for the purpose of noise control) for increased performance benefits at a sacrifice of some or all of the noise control benefits that are possible with the use of the engine.

It is reasonable to expect that a newly produced airframe/engine combination should include all of the noise control technology benefits

capable for that combination, particularly if the development costs for the engine were funded by the Government for that purpose. In other words, the NASA Refan Engine (as well as a new type design engine) should not be considered a normal growth engine just because it is installed on an older type design airframe. The EPA, however, does not propose that the major acoustical change provision be applicable to retrofit of existing airplanes but only to new production airplanes.

Table 3 lists eleven study airplanes which represent major acoustical changes to existing airplanes. Figures 4(a), (b), and (c) show the predicted noise levels for these airplanes. Those Figures also show the mean curve for the 17-airplane control group, representing current technology. The levels of those eleven airplanes are given in References 18 - 20. The EPA believes that this information supports its recommendation that the compliance noise levels to be promulgated by the FAA for current technology airplanes should also be met for major acoustical change airplanes.

In regard to available noise control technology, the EPA believes that the capability exists for airplanes whose type certificates are applied for after 1979 to comply with substantially more stringent requirements. Therefore, the EPA has recommended, as proposed herein, that §C36.5 be amended to include noise levels defined by the mean of the 17 airplane sample less three decibels (mean - 3 db). The effective date would be 1 January 1980.

The rationale for this proposal is based upon the fact that eight airplanes of the seventeen airplane sample could comply with the mean,

only one of which would require the use of the tradeoff provision of §C36.5(b). Seven airplanes, therefore, have noise levels at all three measuring points within three decibels of the proposed requirement (mean - 3 db). Furthermore, a total of ten airplanes of the seventeen airplane sample could comply individually with the mean - 3 db at the sideline, takeoff, and approach measuring points. Three of those airplanes could comply collectively at all three measuring points. Therefore it is not unreasonable to assume that as a minimum, technology is available to "fine tune", the noise control of those existing airplanes for less than three decibels more noise reduction by the use of such techniques as sound absorption material (SAM), thrust cutback, increased thrust/weight ratios, improved lift/draft ratios, reduced approach flaps, etc. Consequently, with available noise control technology capability, new type design airplanes, that is, airplanes that are not constrained to existing type airframes or engines, should be able to comply by 1980 with noise levels at least three decibels lower than existing airplanes such as the eight previously identified (B-747, DC-10, etc).

(b) Future Technology

Substantial achievements in noise reduction, as manifested by the mean curves, have encouraged predictions that aircraft noise at the Part 36 measuring points can be reduced ten decibels or more (e. g., the CARD Study, Ref. 8). Those achievements were obtained primarily as a result of research, development, and demonstration (RD&D) initiated before the promulgation of Part 36. Noise control RD&D, funded

both by Government and industry, show that further achievements will be practicable and are relatively near at hand. The EPA, therefore, recommends that these achievements should be considered for inclusion in the designs for new aircraft types produced some time in the future, probably not before 1985.

The National Aeronautics and Space Administration (NASA), is the single largest contributor to aircraft noise control. A comprehensive report on the NASA noise reduction technology programs and plans, as of March 17, 1973, was made by that Agency for the EPA in connection with the Aircraft/Airport noise study (Ref. 9). Although that report has not been revised since that date, the material is valid and the NASA programs and plans discussed therein should have a strong influence on future aircraft design. The brief review of information on air transport noise control (Ref. 10) and future needs and research trends (Ref. 11), partially updates the earlier NASA report.

The noise reduction accomplishments to date and the extensive programs in progress do indeed hold promise for further substantial gains. Nevertheless, there is a limit, or floor, beyond which it may be impractical to proceed. Consequently, sources of noise such as jet exhaust stream, engine core and flow surface interactions have been identified as potential noise floors which may be relatively near at hand. (Ref. 9-17), barring any technological breakthrough.

Flow surface interaction noise is produced by the interaction of flows with solid surfaces of the aircraft, and can result from propulsive and nonpropulsive sources. An example of a propulsive source is

a powered-lift aircraft where the interaction of the jet engines exhaust with the wing and flap surfaces can be significant noise sources. Non-propulsive noise is produced by aerodynamic boundary layers or the turbulence produced by air passing over and around the airframe and its various components, such as flaps, landing gear, landing gear openings and doors, and other protuberances or cavities that tend to disrupt smooth flow.

It is becoming more apparent that nonpropulsive noise (also referred to as airframe, aerodynamic, or self noise) must be considered in the design of future aircraft if significant further noise reduction is to be achieved. Of the three measuring points specified in Appendix C, that noise would be most noticeable at approach because engine power and distance to the microphone are least. Some members of the industry have expressed the opinion that aircraft noise is approaching the level which would limit the feasibility of further engine noise control. Therefore, they contend that new and expensive engine noise control programs should not be proposed if airframe noise (the aerodynamic noise floor) is the limiting factor.

Figure 2 shows the estimated range of nonpropulsive noise at the approach measuring point for typical airplanes. That Figure also shows the mean minus 3 dB curve, representing available noise control technology. The range is constructed from the ranges given in References 10 and 15. It is interesting to note that the upper limit of the range is less than one decibel below the mean - 3dB noise level curve and has the same slope. Reference 17 reports the results of

an analysis of about ten commercial and military airplanes which substantiates the validity of that range of levels, including the slope. The conclusion of Reference 17 is that the trend of the data is a line which has a slightly greater slope than the 69 FAR 36 minus 10 dB curve. Such a line would lie within the range shown whose limits have a slope equal to 2.107 dB per doubling of weight which is slightly greater than the 2.000 dB per doubling of weight of the 69 FAR 36 curve.

It is apparent from Figure 2 that the noise levels for approach, defined by the mean-3dB curve, have nearly reached the airframe noise floor predicted at this time. It appears that further reductions in the noise levels for approach are contingent upon the development of technology for reducing the nonpropulsive noise sources.

The EPA believes that the development of practicable noise levels representing future noise control technology are dependent upon determining the limiting levels resulting from the three noise sources relating to jet exhaust stream, engine core, or airframe. It appears at this time that airframe noise may be the limiting source in that noise levels lower than the self noise generated by a reasonably clean airframe cannot be achieved by demonstrated technology. Although it is possible that the levels of jet stream or core engine noise may bottom out before airframe noise, the technology capability for substantially lowering the levels of the jet and core sources appears to be more promising than for the airframe source (Ref. 5).

Specific incremental levels representing the differences between a clean wing and a reasonably clean airframe cannot be established with

absolute certainty at this time. However, the EPA believes that the following incremental levels, adjusted to yield round numbers at the maximum aircraft weight limits, are reasonable estimates based upon available data (Ref. 5 and 16):

- (1) Sideline, 7.5 dB,
- (2) Takeoff, 7.5 dB, and
- (3) Approach, 5.5 dB.

The increment for approach given in (3) above is in accordance with the recommendation contained in Reference 16. The increments for sideline and takeoff have been assumed to be equivalent because the airplane speeds and configuration should be about the same. A two decibel difference between the increments for sideline and takeoff as distinguished from that for approach appears reasonable considering the differences in speed and configuration.

Figures 3(a), (b), and (c) show the EPA proposed compliance noise level requirements representing available and future noise control technology derived from the mean -3db of the 17 airplane sample, and the foregoing analysis for future technology. The two curves are further identified as 80 FAR 36 and 85 FAR 36 to indicate representative time periods for implementation. The future technology curves for sideline and approach require little explanation; they are the estimated levels for a clean wing adjusted linearly upwards by 7.5 and 5.5 decibels, respectively. The curve for takeoff requires a more complex procedure because the modifications to the clean wing include a slope adjustment as well as a linear level adjustment. The development for those future

technology curves is discussed in greater detail in the EPA Project Report upon which this proposal is based (Ref. 5).

The Civil Aviation Research and Development (CARD) Policy Study (Ref. 8) conducted a comprehensive review of policies affecting civil aviation. The CARD Study recommended, based upon their assessment of technical capability, that, by 1981, noise from all new airplanes should be reduced at least 10 decibels below the Appendix C levels and possibly as much as 22 decibels, depending upon the measuring point and the airplane weight. The CARD Study goals, established in 1971 for ten years after that date, can nearly be achieved by the available levels and can be achieved completely by the future levels.

It must be emphasized that the future technology noise compliance curves shown in Figure 3 represent airframe noise floors predicted at this time. The predictions are, admittedly, rough and it is conceivable that the results of research, development and demonstration (RD&D) within the next ten years could lead to even lower noise levels. For example, it was assumed, based upon rather simple predictions, that the ultimate lower limit would be the noise levels produced by an aerodynamically clean wing. In addition, a further assumption was made that noise levels of practical airframes could approach those of clean wings by only 7.5 dB for sideline and takeoff and 5.5 dB for approach. Therefore, RD&D should be conducted with objectives which include the determination of airframe noise levels for clean airframes and the development of design data for practical airframes which would narrow the airframe noise gap between clean and practically

clean airframes.

(c) Predicted Noise Levels for New Type Airplanes

Figures 5(a), (b), and (c) show the predicted noise levels for the new type design airplanes listed in Tables 4(a) and (b) compared with the mean curves and the two sets of proposed compliance noise level curves representing available and future noise control technology (Refs. 22 through 29). The EPA believes that this information supports its recommendations for the compliance levels proposed in §C36.5(a) that must be met for new type airplanes.

The comparisons shown in those Figures represent predicted noise levels of new types of airplanes and two of the curves represent compliance noise levels proposed in §C36.5(a) that must be met after certain dates of application. First, under §C36.5(a)(2), airplanes whose type certificates are applied for on or after 1 January 1980 and before 1985, would be required to meet 80 FAR 36. Second, under §C36.5(a)(3), airplanes whose type certificates are applied for on or after 1 January 1985 would be required to meet 85 FAR 36 which is the estimated practicable noise floor as perceived at this time.

Comparison of the sideline noise levels of the airplanes with the levels represented by the curves, it is seen that sixteen airplanes comply with the mean, eight comply with 80 FAR 36, and three with 85 FAR 36. Similarly for takeoff; twenty airplanes comply with the mean, eleven with 80 FAR 36, and seven with 85 FAR 36. And for approach; ten airplanes comply with the mean, seven with 80 FAR 36, and three with 85 FAR 36. Considering all three measuring points, and exercising

the 3/2 decibels tradeoff provision, nine airplanes can comply with the mean, five with 80 FAR 36, and three with 85 FAR 36.

It is seen from Figure 5, that a few of the airplanes (Nos. 7, 18, 26, 27, 28, 29, 30 and 33) are shown with levels below the predicted noise floor for one or more of the noise measuring points. This peculiarity, however, does not necessarily contradict the choice of levels for the airframe noise floor because the sources of the data may have based their noise level predictions on estimations of the capability for noise control by means of aircraft engine design technology without consideration given to whether the airframe noise floor has been reached or exceeded. In other words, these sources may be predicting that the propulsive noise floor will not "bottom out" below the nonpropulsive noise floor. It should be pointed out, however, that airplane No. 8 is similar to the Airbus (A 300 B), listed as airplane No. 7 in Table 2, which has been certificated for noise in conformance with Annex 16. The takeoff noise level for the Airbus would lie approximately on the curve representing future noise control technology. It may be that the Airbus has indeed reached the airframe noise floor for takeoff operations.

(d) Summary of Proposed Noise Levels

Based upon the foregoing analysis on noise levels, the EPA recommends that §C36.5 be amended to include the following compliance noise levels:

(1) Pre-1969 Technology Airplanes.

The compliance noise levels defined as 69 FAR 36, which are

existing requirements applicable to newly produced airplanes of older type designs, are adequate, except for some acoustical changes, and need not be amended.

(2) Current Technology Airplanes .

Compliance noise levels, applicable to new type design airplanes, shall be as recommended by the FAA in NPRM 75-37 or by ICAO in the CAN/4 report or some compromise of the two.

(3) Available Technology Airplanes .

Compliance noise levels, applicable to new type design airplanes for which an application for a type certification is made on or after 1 January 1980, shall be represented by the set of curves in Figures 3 identified as "available" or 80 FAR 36.

(4) Future Technology Airplanes .

Compliance noise levels, applicable to new type design airplanes for which an application for a type certificate is made on or after 1 January 1985, shall be represented by the set of curves in Figures 3 identified as "future" or "85 FAR 36". Although the 85 FAR 36 levels are proposed to be effective eight to nine years in the future, they are intended to be standards, not merely guidelines. They would be subject to revision, however, at the next quinquennial review. The EPA believes that the aircraft manufacturers must be given design standards now for the 1985 time period if the maximum amount of noise control is to be designed into the aircraft from the beginning. To promulgate only the 80 FAR 36 standards, for instance, would be to make mandatory only that technology which

would likely come into the market place of its own accord without government regulation although, perhaps, on a slower schedule.

(5) Major Acoustical Change Airplanes .

Compliance noise levels, applicable to airplanes with major acoustical changes to older type designs, shall be represented by the current technology levels to be promulgated by the FAA, whether as proposed in NPRM 75-37 or in the ICAO CAN/4 report or some compromise of the two.

C4 Takeoff Conditions.

Section C36.7 of Appendix C specifies takeoff test conditions relative to (1) the power or thrust which must be maintained to a specific height above the runway of the airport (HHA), (2) the permitted power or thrust cutback, (3) the airplane speed, and (4) the airplane configuration.

In regard to the test conditions relative to item (1) above, §C36.7(b) requires takeoff power or thrust be used from the start of takeoff roll to 1000 feet HAA for airplanes powered by two and three engines and to only 700 feet HAA for airplanes powered by four or more engines. The FAA noise certification tests show that it is both practicable and reasonable, as well as safer and less noise polluting, for four engine current technology airplanes to reach 1000 feet HAA over the takeoff measuring point. Therefore, since there is no longer any need for such discrimination for current technology airplanes, the EPA has recommended that the alternative height of 700 feet HAA, permitted in §C36.7(b) for airplanes powered by more than three engines, be eliminated.

Section C36.7(c) of the takeoff test conditions permits a power or thrust cutback to specified limits. The original purpose of that cutback was to establish a safe operating procedure and associated noise level for minimizing the noise impact on near downrange noise sensitive communities. It appears that this cutback procedure has not been used to any significant extent in normal air carrier operations. Nevertheless, the EPA believes that the thrust cutback procedure

provides useful information on the noise reduction that can be expected close to the airport by safe operating procedures. Furthermore, the EPA believes that the noise produced by the airplane without power or thrust reduction is important for use in analyzing community noise impact. Therefore, in order to obtain this information the EPA recommends that paragraph (c) of §C36.7 be amended by adding a sentence at the end of that paragraph which would provide that if compliance with the noise levels of §C36.5 is met with power or thrust reduction then additional tests must be conducted without power or thrust reduction and the noise levels achieved under those tests be reported for informational purposes.

Section C36.7(d) of the takeoff test conditions requires the airplane minimum speed to be $V_2 + 10$ knots which must be attained as soon as practical after liftoff and maintained throughout the takeoff noise test. The original purpose was to insure that the measured noise levels represented airplanes operating at takeoff speeds safe for routine line operations. It appears that this requirement permits too wide a variation in the duration correction inherent in the computations for Effective Perceived Noise Level. Furthermore, for some airplanes, the all engines operating speeds (at 35 or 50 feet for turbine powered or propeller driven airplanes, respectively) are greater than $V_2 + 10$. The EPA believes, therefore, that the test speed should not be less than $V_2 + 10$ or the all engines operating speed, whichever is greater, with limitations in the form of tolerances, of which ± 3 knots appears reasonable.

C5 Approach Test Conditions.

Section C36.9 of Appendix C prescribes approach test conditions relative to (1) the airplane's configuration, (2) the glide angle, (3) the approach speed, and (4) the power or thrust. FAA noise certification tests conducted since 1969 show that the approach test conditions are satisfactory except for the configuration requirements prescribed in paragraph (b) of that section. Under that paragraph the airplane's configuration used in showing compliance with the noise levels of §C36.5(a) must be the same as the one used in showing compliance with the landing requirements in the airworthiness regulations for the type certification of the airplane. If more than one configuration is used for airworthiness certification, the configuration that is most critical from a noise standpoint must be used for compliance with paragraph (b) of §C36.9. The EPA believes there is no longer any justification for this requirement. Instead, the EPA believes it would be more appropriate to require compliance for one flap position less than the maximum landing flap setting certificated for airworthiness. Such a test condition would further support a recommendation that has been submitted by EPA and published by the FAA (40 FR 44256) that would amend the general operating rules of Part 91 to require the use of a reduced flap setting procedure for approach and landing. Since the use of such a reduced flap setting procedure would achieve substantial noise reductions, it should be used to show compliance with the approach test conditions of §C36.9(b).

As proposed herein, §C36.9 would be amended by deleting the last sentence of paragraph (b) of that section which requires the use of an approach configuration most critical from the noise standpoint (if more than one configuration is used to show compliance) and inserting in lieu thereof the following flap setting requirement: "If more than one flap setting is used in showing compliance with the landing requirements in the airworthiness regulations constituting the type certification basis of the airplane, one flap position less than the maximum certified for the airplane must be used."

C6. Acoustical Change Approvals.

As defined in §21.93(b) of the Federal Aviation Regulations, any voluntary change in the type design of a transport category or turbo-jet engine powered airplane that may increase the noise levels created by the airplane is an "acoustical change". Generally, the most important acoustical changes are related to airplane growth. A new airplane design is generally "grown" over its lifetime, either by increasing its capacity or range. Both of these involve increased public air transportation capabilities. To support this growth, powerplants for these airplanes must be designed so that they too can be grown. From the engine manufacturer's point of view, engine growth also allows an engine to compete over a broader range of airplane applications. Allowance for such growth is a basic factor in the economic viability of aircraft programs. Unfortunately, engine growth generally is accompanied by increased noise. An increase in thrust is usually accomplished by increasing temperatures and pressures in the engine core, thus increasing the core engine exhaust velocity and decreasing the by-pass ratio. The effect of this procedure is that the grown engine is noisier than would be an engine of equal thrust designed with the same performance parameters as the base engine. In addition, a growth version of a given airplane design will frequently have poorer climb characteristics and will, therefore, be at lower altitude when it passes over the 3.5 n.m. takeoff measurement point. Hence, the takeoff noise level in particular is quite sensitive to airplane growth.

The FAA in NPRM 75-37 has proposed to increase the severity of the acoustical change requirements for airplanes that comply with existing Appendix C. That proposal would limit the noise escalation associated with the growth of existing airplane types by introducing more stringent requirements when acoustical change applications are made after the date of the NPRM (5 November 1975). The noise escalation associated with the growth of new airplane types would be limited to the compliance noise levels specified in §36.7(a) of that proposal for the particular type of airplane on which the acoustical change is to be made.

The EPA believes that the technology capability exists for further controlling, to a reasonable extent, those airplanes as they are grown and, therefore, has no objections to the FAA proposed modifications to §36.7(a).

D. Health and Welfare

The Noise Control Act of 1972 defines environmental noise as "the intensity, duration, and the character of sounds from all sources". The EPA has chosen the equivalent A-weighted sound pressure level (Leq) as its basic measure for environmental noise. There are two time intervals of interest in the use of Leq for noise impact assessment. The smallest interval of interest is one hour usually considered the "design hour" of a day. The primary interval of interest for residential land uses is a twenty four hour period, with a weighting applied to nighttime noise levels to account for the increased sensitivity with the decrease in background noise at night. This twenty-four hour weighted equivalent level is denoted the Day-Night Level (Ldn).

In its report to Congress on the Aircraft/Airport Noise Study, the EPA recognized that the direct readily quantifiable effects of noise on public health and welfare are the potential for producing a permanent loss in hearing acuity, interference with speech communications, and the generation of annoyance. The Levels Document specifically identified the following two long-term average levels of cumulative noise exposure as requisite to protect public health and welfare with an adequate margin of safety:

- . A Day-Night Level (Ldn) no greater than 55 dB to protect against annoyance (including interference with speech communication) and
- . An Equivalent Noise Level (Leq) no greater than 70 dB,

to protect against significant adverse effects on hearing.

Two single one-way runway airports were chosen to be indicators of the noise impact resulting from the implementation of the various options for compliance noise levels. The first runway pertains to large air-carrier airports and the second to general aviation airports. The air-carrier airport is represented by a runway 15,000 ft. in length enclosed by an imaginary rectangle whose dimensions are 27,000 x 3,000 ft. (2.91 sq.mi.). The general aviation airport is represented by a runway 6,000 ft. in length enclosed by an imaginary rectangle whose dimensions are 18,000 x 3,000 ft. (1.94 sq.mi.). These dimensions were chosen to be compatible with the Part 36 measuring points except that the takeoff point for the general aviation airports was reduced from 3.5 nautical miles to 2.0 nautical miles to provide symmetry and to be more representative of the smaller land areas characteristic of those airports.

The rectangles enclosing the airports can be considered as indicators of land areas that, typically, suffer substantial noise impact. Land areas which are noise impacted by aircraft operations should be owned or controlled by airport authorities for airport functional purposes; or the land should be used and can reasonably be expected to continue to be used in a way which is compatible with the noise levels to which it is exposed; or the development rights of such land should be purchased such that only development compatible with the airport noise levels is allowed.

It is generally agreed that a Ldn level of 75 dB is an unacceptable exposure level for people in normally constructed homes. A Ldn level of 65 dB is a reasonable objective for airport neighborhood communities because present limited data indicate that, at some airports, a Ldn contribution of noise from aircraft of less than 65 dB is difficult to distinguish from other ambient noise, given the environmental noise levels (other than from aircraft) around those airports. However, as indicated in the Levels Document, effects from noise occur at Ldn levels below 65 dB and further analysis is needed in the future to refine further practical objectives for airport noise abatement.

The indicator rectangles serve the purpose of providing a standard fence within which the effectiveness of the compliance noise level options may be compared in a meaningful and consistent manner. The particular dimensions of the rectangles are significant because they are compatible with the FAR 36 measuring points which permits the noise data obtained from the FAR 36 tests to be utilized directly without the need for lengthy computations. Furthermore, the rectangular dimensions are large enough to enclose meaningful noise exposure contours and small enough to implement noise control through compatible land use without experiencing unreasonable costs.

Many airports, of course, have more than one runway with mixed directional operations and a single one-way runway would not be a realistic representation of those airports. Nevertheless, for airports with more than one runway, appropriate rectangles could be super-

posed on each of the runways with the composite perimeter indicative of a standard fence.

In the project report (Ref 5), comparisons are made of the effectiveness of the compliance noise levels in terms of specific Ldn contours lying within the rectangles enclosing the air-carrier and general aviation runways. In regard to large air-carrier airports, an example was chosen of a typical mix of airplanes operating from a one-way runway at a rate of 441 takeoffs and landings each per day. The analysis shows that if all airplanes complied exactly with the 69 FAR 36 levels, the Ldn 80 contour would barely lie within the rectangle. This example demonstrates that the existing Part 36 requirements are inadequate to prevent severe noise impact (due to 441 takeoff and landing operations) from occurring within the nearly three square miles enclosed by the rectangle. Further analysis with the same example shows that if all airplanes could comply with the FAA levels proposed for current technology, the Ldn 77 contour would lie within the rectangle. This is an improvement of three decibels which, although significant, is not adequate. Carrying this example to its conclusion, if all airplanes could comply with the future technology levels, the Ldn 70 contours would lie well within the rectangle which would indeed be a substantial reduction.

Although the foregoing example assuming 441 takeoffs and landings and future technology compliance levels leads to a 10 dB improvement compared with 69 FAR 36 compliance, the noise impact has not been reduced to the Ldn levels of 65 dB. As mentioned previously, further re-

ductions in noise impact can result from limiting aircraft operations. Assuming the relative mix of aircraft, all of which could comply with the various technology levels, the following tabulation indicates the relationship between the number of operations per day and the noise exposure contour levels that would lie within the rectangles:

<u>Daily Number of Takeoffs & Landings Each</u>	<u>Ldn Contour Levels</u>			
	<u>69 FAR 36</u>	<u>FAA</u>	<u>Available</u>	<u>Future</u>
441	80	77	73	70
141	75	72	68	65
45	70	67	63	60
15	65	62	58	55

The foregoing tabulation indicates that compliance with the future technology noise levels would result in the Ldn 65 contour lying within the indicator rectangle when the number of takeoff and landing operations has been reduced from 441 to 141. For most air carrier airport runways, 441 takeoff and landing operations each per day are too large, while 141 or less are realistic. Certainly having the Ldn 70 and Ldn 65 contours lying within three square miles, due to 441 and 141 takeoffs and landings, respectively, are noteworthy achievements especially since that accomplishment would result exclusively from source noise control. Additional noise abatement for the same number of operations can be achieved by implementing noise abatement approach and departure procedures on a site specific basis.

In regard to general aviation airports, an analysis was made similar to that for the large air-carrier airports. An example was chosen

of a typical mix of general aviation type airplanes operating from a one-way runway at various rates of takeoffs and landings per day. The following tabulation indicates, in the same manner as was done previously, the relationships between the number of operations per day and the noise exposure contour levels that would lie within the rectangles:

<u>Daily Number of Takeoffs & Landings Each</u>	<u>Ldn Contour Levels</u>			
	<u>69 FAR 36</u>	<u>FAA</u>	<u>Available</u>	<u>Future</u>
400	75	71	64	61
127	70	66	59	56
40	65	61	54	51
13	60	56	49	46
4	55	51	44	41

The foregoing tabulation indicates that compliance with the available and future technology noise levels would result in the Ldn 65 contours lying within the indicator rectangle for all numbers of operations listed. Furthermore, for future technology compliance, the Ldn 55 contour would almost lie within the indicator rectangle when the number of takeoffs and landings has been reduced from 400 to 127. For most general aviation airport runways, 127 or less takeoff and landing operations each per day are more realistic than 400.

For the case of general aviation airports, most of which are sited in suburban or rural locations, a Ldn level of 55 dB is a reasonable objective for the airport communities. It should be understood that while the airport neighborhood population is less dense for general aviation airports compared with large air-carrier air-

ports, there are many more of the former and their neighbors are exposed, in general, to less ambient noise and, therefore, expect less noise intrusion.

E. Costs

EPA has not identified the costs, if there would, in fact, be any significant costs to the manufacturers resulting from regulatory actions such as the proposed amendments to Part 36. For example, the compliance noise levels representing current and available technology are capable of being met by many aircraft being produced today.

Until comparatively recently, noise has largely been considered by the aircraft and engine designers to be a second order effect in optimizing performance and, therefore, was neglected. As noise became important, and techniques were developed for its abatement and control, the designers found that there were benefits beyond those that could be attributed to the energy transfer of noise to performance. In other words, there was performance improvement resulting from the increased knowledge of aircraft and engine design which can be attributed to the requirements for noise control.

The costs of noise control by compatible land use have been recognized as being very high and, in general, are the least cost-effective method of all. Those costs, therefore, will be reduced when the control of aircraft noise at the source results in reduced Ldn contours lying within the indicator rectangles.

Section 611(d) of the Federal Aviation Act of 1958, as amended by Section 7(b) of the Noise Control Act, directs that, in prescribing and amending standards and regulations under this section, the FAA shall, amongst other matters:

"(4) consider whether any proposed standard or regulation is economically reasonable, technologically practicable, and appropriate for the particular type of aircraft, aircraft engine, appliance or certificate to which it will apply..."

Accordingly, although the EPA proposes that the FAA adopt this recommended rule on noise levels for turbojet powered airplanes and large propeller driven airplanes, it is recognized that such proposal is predicated primarily on the furtherance of protection of the public health and welfare from aircraft noise, and that the Administrator of the FAA must consider the economic reasonableness of any rules promulgated under Section 611 of the Act.

This amendment is proposed under the authority of secs. 313(a) 601, 603, and 611 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, and 1431 as amended by Pub. L. 92-574), sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)), Title I, National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), and E.O. 11514, Mar. 5, 1970.

In consideration of the foregoing, it is proposed to amend Part 36 of the Federal Aviation Regulations as follows:

1. By amending §36.1(a)(1) by deleting the words "subsonic transport category large airplanes" and inserting in lieu thereof the words "large propeller driven airplanes".
2. By amending §36.7(a) to read as proposed by the FAA in NPRM 75-37, published 5 November 1975 (40 FR 51476).
3. By adding a sentence at the end of §C36.1 to read: "Approved equivalent procedures may also be permitted for compliance with the procedures in this Appendix."
4. By amending paragraph (c) of §C36.3 to read as follows:

§C36.3 Noise measuring points .

* * * * *

(c) For the sideline, at the point , on a line parallel to and 0.25 nautical miles from the extended centerline of the runway, where the noise level after liftoff is greatest.

5. By amending paragraph (a) of §C36.5 to read as follows:

§C36.5 Noise Levels .

(a) General. Except as provided in paragraphs (b) and (c) of

this section, it must be shown by flight tests that the noise levels of the airplane, at the measuring points described in §C36.3, do not exceed the noise levels in subparagraphs (1) - (4) of this paragraph (with appropriate interpolation between weights).

- (1) Airplanes for which an application for a type certificate is made on or after 1 December 1969 and certain airplanes newly manufactured after that date. Except as provided in subparagraphs (2) and (3) of this paragraph, each person who applies under Part 21 of this chapter for a type certificate for an airplane on or after December 1, 1969, or who applies after that date under §21.183 for the original issue of an airworthiness certificate for an airplane for which a type certificate was applied for before that date, must show that the noise levels of the airplane do not exceed the following:

- (i) For approach and sideline, 108 EPNdB for maximum weights of 600,000 lbs. or more, less 2 EPNdB per halving of the 600,000 lbs. maximum weight down to 102 EPNdB for maximum weights of 75,000 lbs. and under.
- (ii) For takeoff, 108 EPNdB for maximum weights of 600,000 lbs. or more, less 5 EPNdB per halving of the 600,000 lb. maximum weight down to 93 EPNdB for maximum weights of 75,000 lbs. and under.

- (2) Airplanes for which an application for a type certificate is made on or after 1 January 1980 . Except as provided in subparagraph (4) of this paragraph, each person who applies under Part 21 for a type certificate for an airplane on or after 1 January 1980, must show compliance with the noise levels prescribed and limited by the following formulas, representing available noise control technology, applicable to airplane weights (W) between 10,000 and 1,000,000 pounds:

Sideline: $EPNL = 7 \text{ Log } (W) + 56.$

Takeoff: $EPNL = 12 \text{ Log } (W) + 29$

Approach: $EPNL = 7 \text{ Log } (W) + 60.$

- (3) Airplanes for which an application for a type certificate is made on or after 1 January 1985 . Each person who applies under Part 21 for a type certificate for an airplane on or after 1 January 1985, must show compliance with the noise levels prescribed and limited by the following formulas, representing future noise control technology, applicable to airplane weights (W) between 10,000 and 1,000,000 pounds:

Sideline: $EPNL = 7 \text{ Log } (W) + 51.$

Takeoff: $EPNL = 12 \text{ Log } (W) + 25.$

Approach: $EPNL = 7 \text{ Log } (W) + 57.$

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6. By amending paragraph (b) of §C36.7 to read as follows:

§C36.7 Takeoff Test conditions .

* * * * *

(b) Takeoff power or thrust must be used from the start of the takeoff to the point at which a height of at least 1,000 feet above the runway is reached.

* * * * *

7. By amending paragraph (c) of §C36.7 by adding a sentence at the end of that paragraph to read: "If compliance with the noise levels of §C36.5 is met with power or thrust reduction, additional tests must be conducted without power or thrust reduction and the noise levels achieved under those tests must be reported for informational purposes."

8. By amending paragraph (d) of §C36.7 to read as follows:

(d) A speed of V_2+10 knots or the all-engines-operating speed at 35 feet (for turbine engine powered airplanes) or 50 feet (for reciprocating engine powered airplanes) whichever speed is greater must be attained as soon as practicable after liftoff and must be maintained throughout the takeoff noise test. These tests must be conducted within tolerance speeds of ± 3 knots and the noise values measured at the test day speeds must be corrected to the acoustic day reference speeds.

9. By adding a new §C36.8 to read as follows:

§C36.8 Alternate takeoff test procedure.

- (a) When the signal to noise ratio obtained by the use of the test conditions prescribed in §C36.7 is too small for satisfactory identification and analysis of the airplane noise, a horizontal flyover procedure must be conducted instead of the test procedure prescribed in that section. The flyover procedure must include at least six horizontal flights over the measuring station at a height of $1,000 \pm 30$ feet and 10 degrees from the zenith when passing overhead.
- (b) Takeoff power or thrust and a speed of at least $V_2 + 10$ knots must be used during the flyover procedure required by paragraph (a) of this section. In addition, a constant takeoff configuration, selected by the applicant, must be maintained throughout the horizontal flyover procedure.
- (c) The noise measurements obtained by the use of the flyover procedure required by paragraph (a) of this section must be corrected for climb performance and speed in accordance with the following formulas:

(1) Turbojet Powered Airplanes

$$P = 60 - 20 \log [(21266 - D35) \sin \alpha + 35] + 10 \log (VH/VY)$$

(2) Large Propeller Driven Airplanes

$$P = 60 - 20 \log [(21266 - D50) \sin \alpha + 50] + 10 \log (VH/VY)$$

Where:

P = Correction that must be added algebraically to the Effective Perceived Noise Level (EPNL) evaluated under Appendix B, decibels.

D35 = Takeoff distance to 35 feet height at maximum certificated takeoff weight, feet.

D50 = Takeoff distance to 50 feet height at maximum certificated takeoff weight, feet.

VY = Climb speed equivalent to $V_2 + 10$ knots, or greater if approved, fpm.

R/C = Rate of climb corresponding to climb speed, fpm.

VH = Test speed, averaged for all horizontal flights, at the aircraft position for which the tone corrected perceived noise level is maximum, fpm.

α = arcsine $(R/C)/(VY)$ = angle of climb, degrees.

10. By changing the last sentence of paragraph (b) of §C36.9 to read:
 "If more than one flap setting is used to show compliance with the landing requirements in the airworthiness regulations constituting the type certification basis of the airplane, one flap position less than the maximum certificated for the airplane must be used."

Issued in Washington, D. C. on _____ 1976.

Administrator
 Federal Aviation Administration

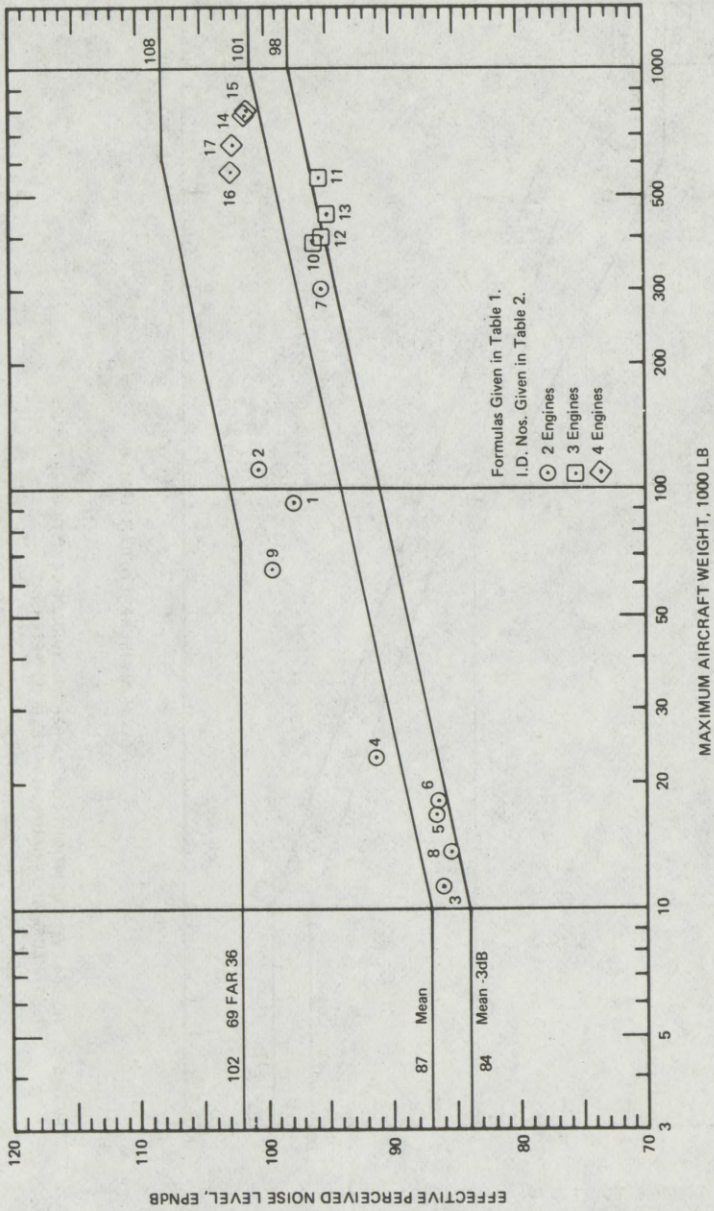


FIGURE 1. NOISE LEVELS VS WEIGHT FOR CURRENT TECHNOLOGY EXISTING AIRPLANES.
(a) SIDELINE AT 0.25 NAUTICAL MILE (463 METERS).

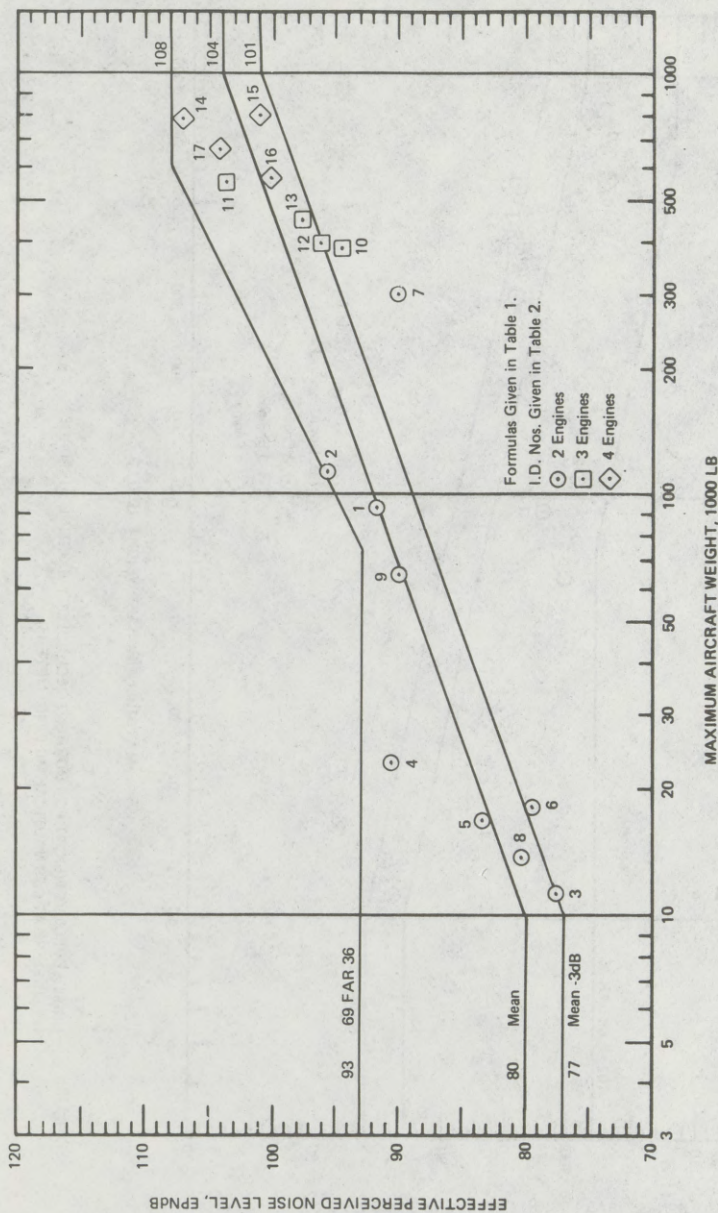


FIGURE 1. NOISE LEVELS VS WEIGHT FOR CURRENT TECHNOLOGY EXISTING AIRPLANES.
(b) TAKEOFF AT 3.5 NAUTICAL MILES (6,482 METERS).

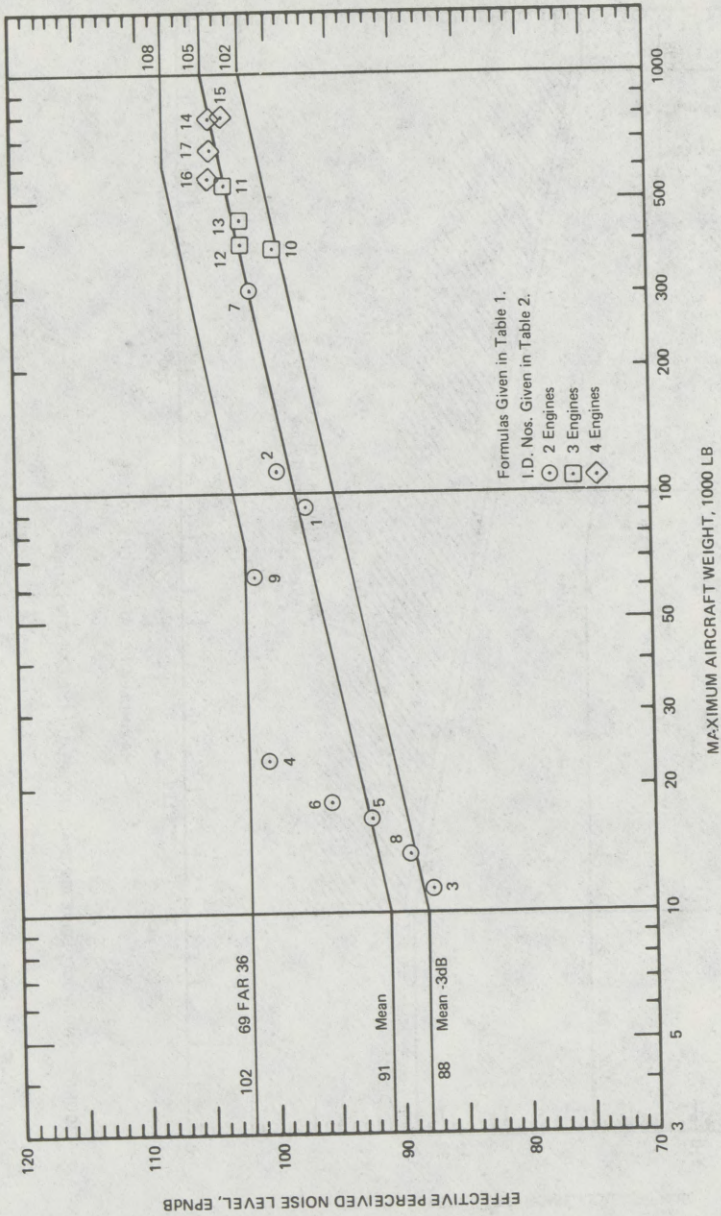


FIGURE 1. NOISE LEVELS VS WEIGHT FOR CURRENT TECHNOLOGY EXISTING AIRPLANES.
(c) APPROACH AT 1.0 NAUTICAL MILE (1,852 METERS).

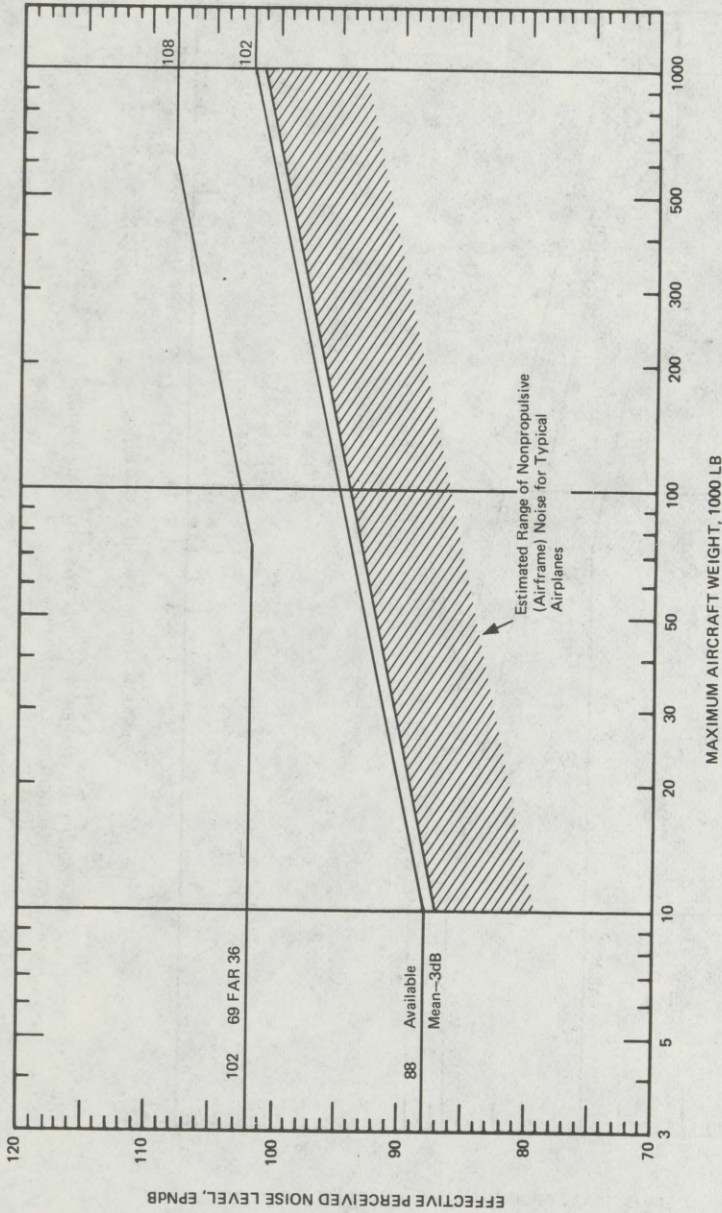


FIGURE 2. NONPROPULSIVE APPROACH NOISE FOR TYPICAL AIRPLANES.

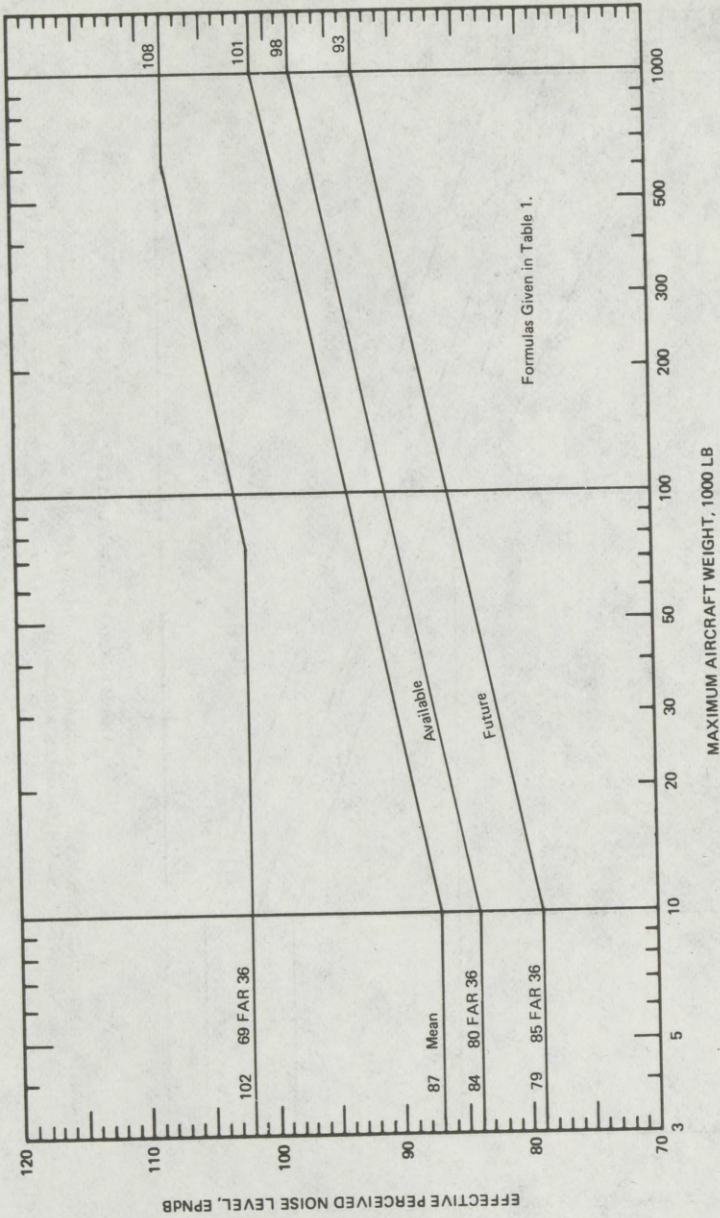


FIGURE 3. COMPLIANCE NOISE LEVELS FOR AVAILABLE AND FUTURE TECHNOLOGY AIRPLANES.
(a) SIDELINE AT 0.25 NAUTICAL MILE (463 METERS).

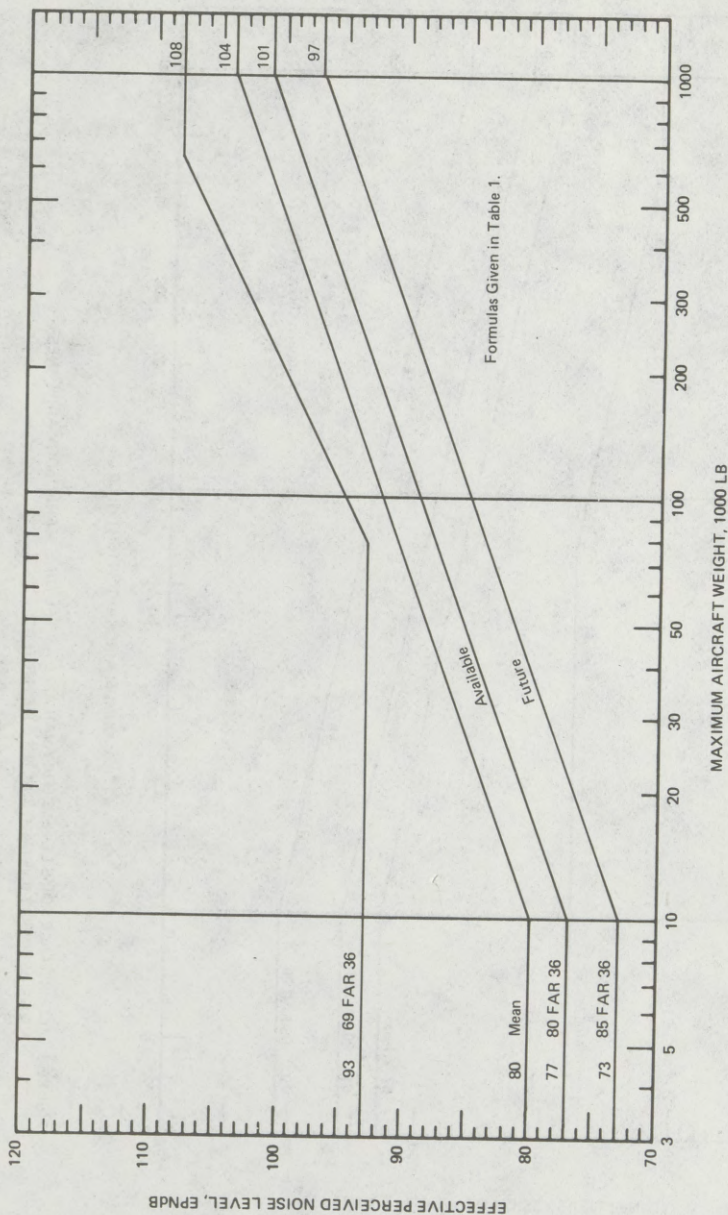


FIGURE 3. COMPLIANCE NOISE LEVELS FOR AVAILABLE AND FUTURE TECHNOLOGY AIRPLANES.
(b) TAKEOFF AT 3.5 NAUTICAL MILES (6,482 METERS).

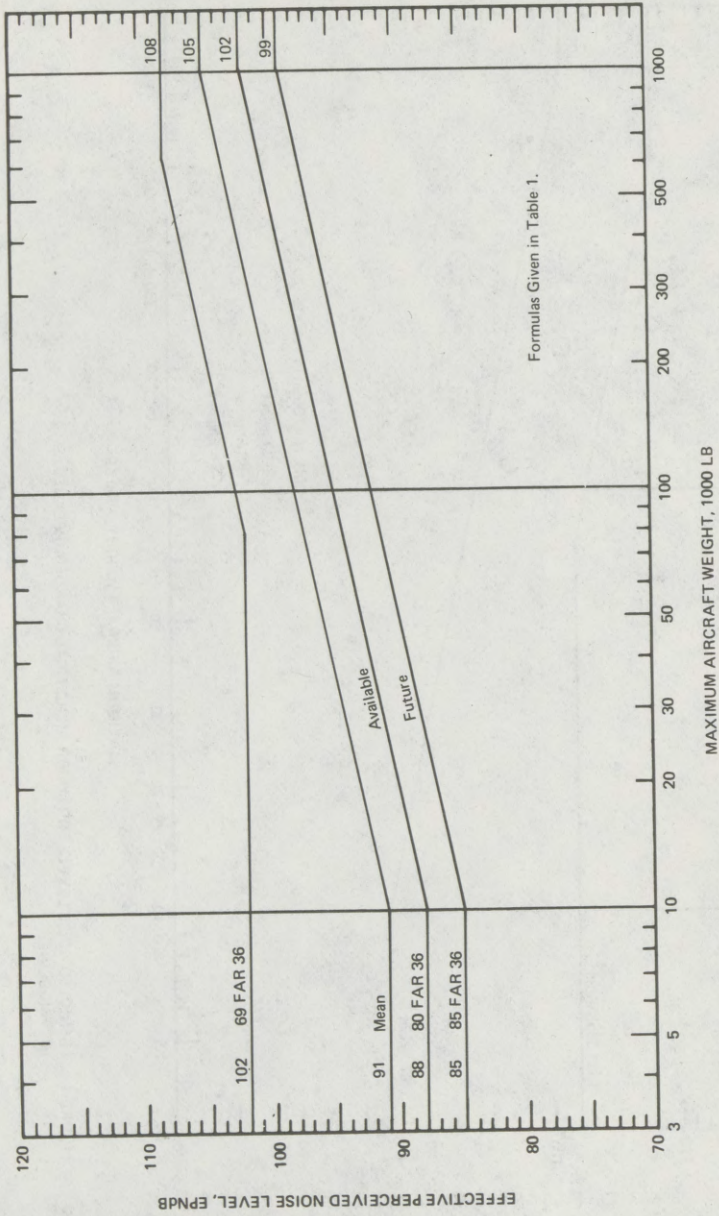


FIGURE 3. COMPLIANCE NOISE LEVELS FOR AVAILABLE AND FUTURE TECHNOLOGY AIRPLANES.
(c) APPROACH AT 1.0 NAUTICAL MILE (1,852 METERS).

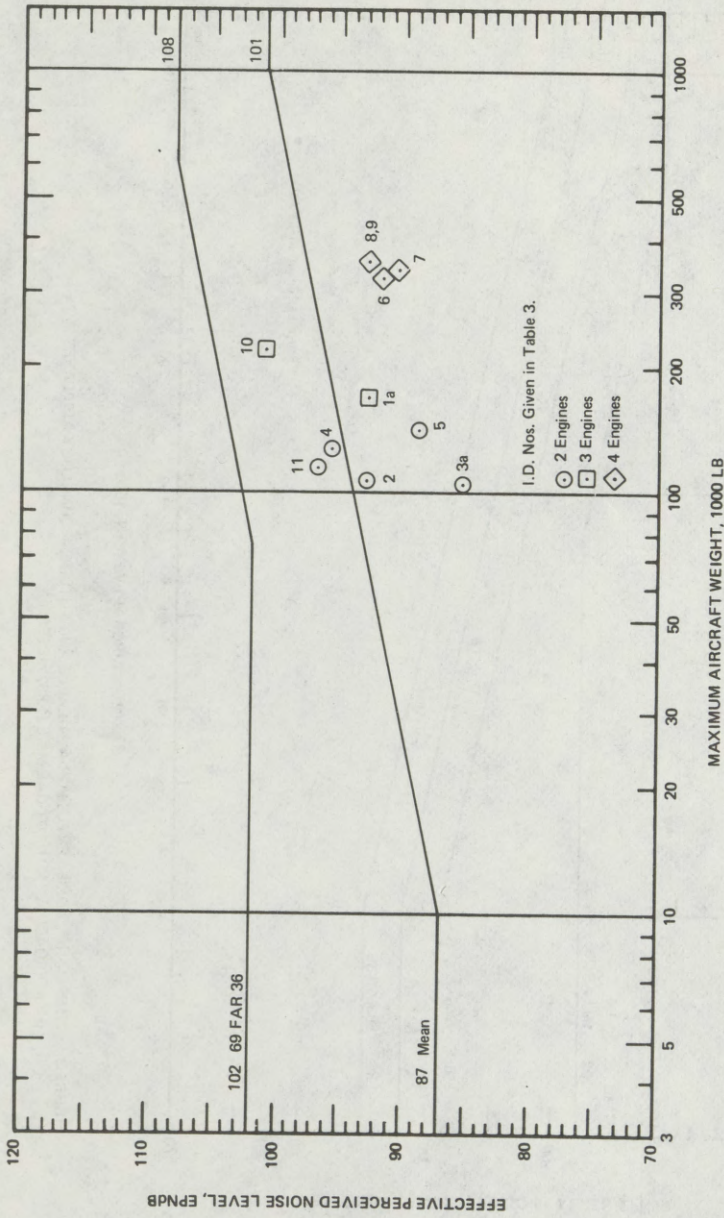


FIGURE 4. PREDICTED NOISE LEVELS FOR MAJOR ACOUSTICAL CHANGE AIRPLANES.
(a) SIDELINE.

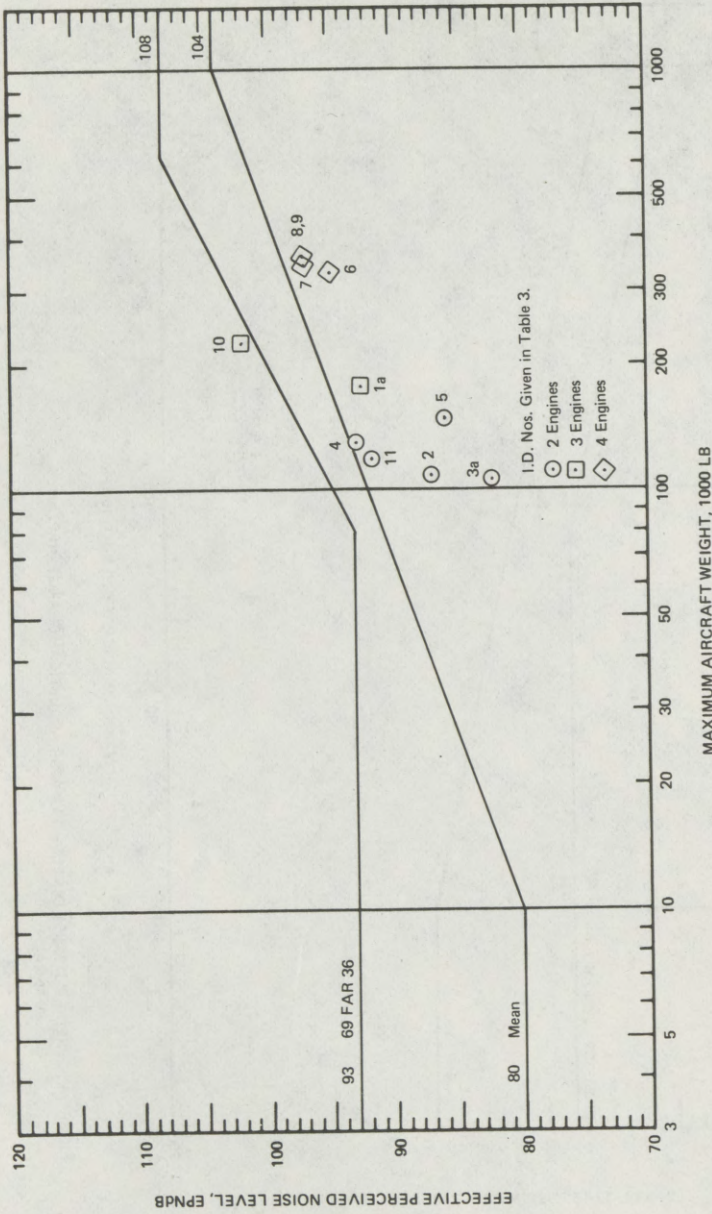


FIGURE 4. PREDICTED NOISE LEVELS FOR MAJOR ACOUSTICAL CHANGE AIRPLANES.
(b) TAKEOFF.

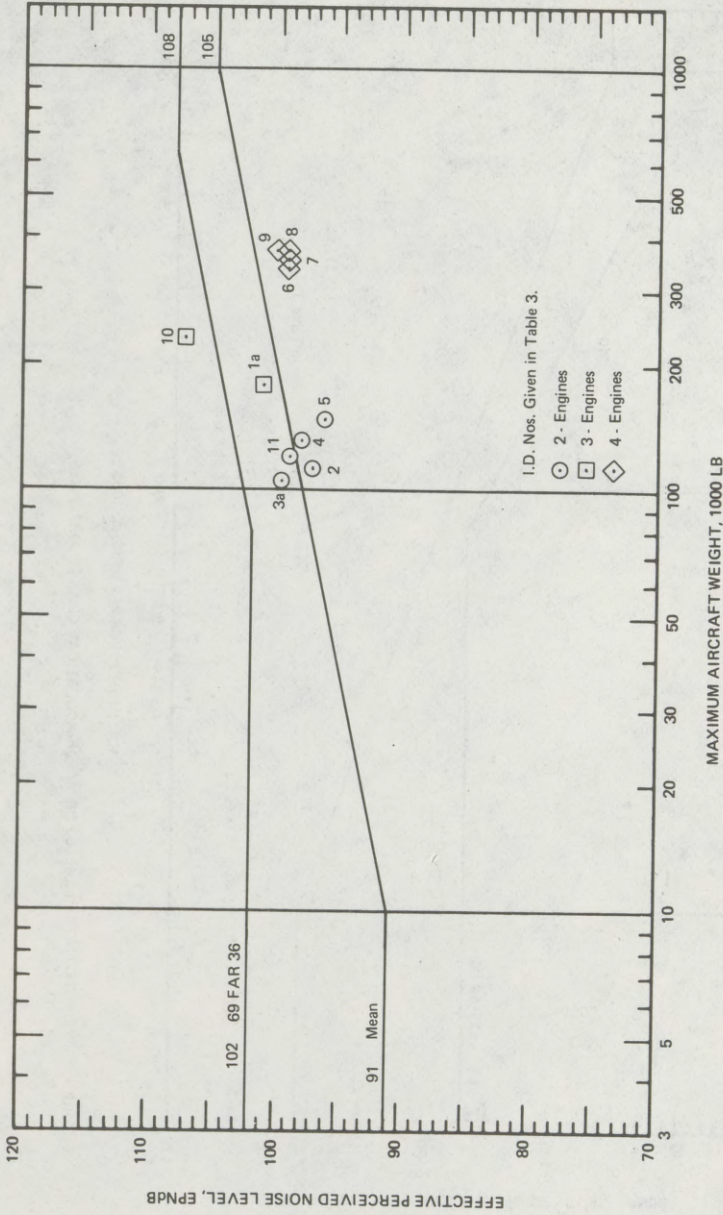


FIGURE 4. PREDICTED NOISE LEVELS FOR MAJOR ACOUSTICAL CHANGE AIRPLANES.
(c) APPROACH.

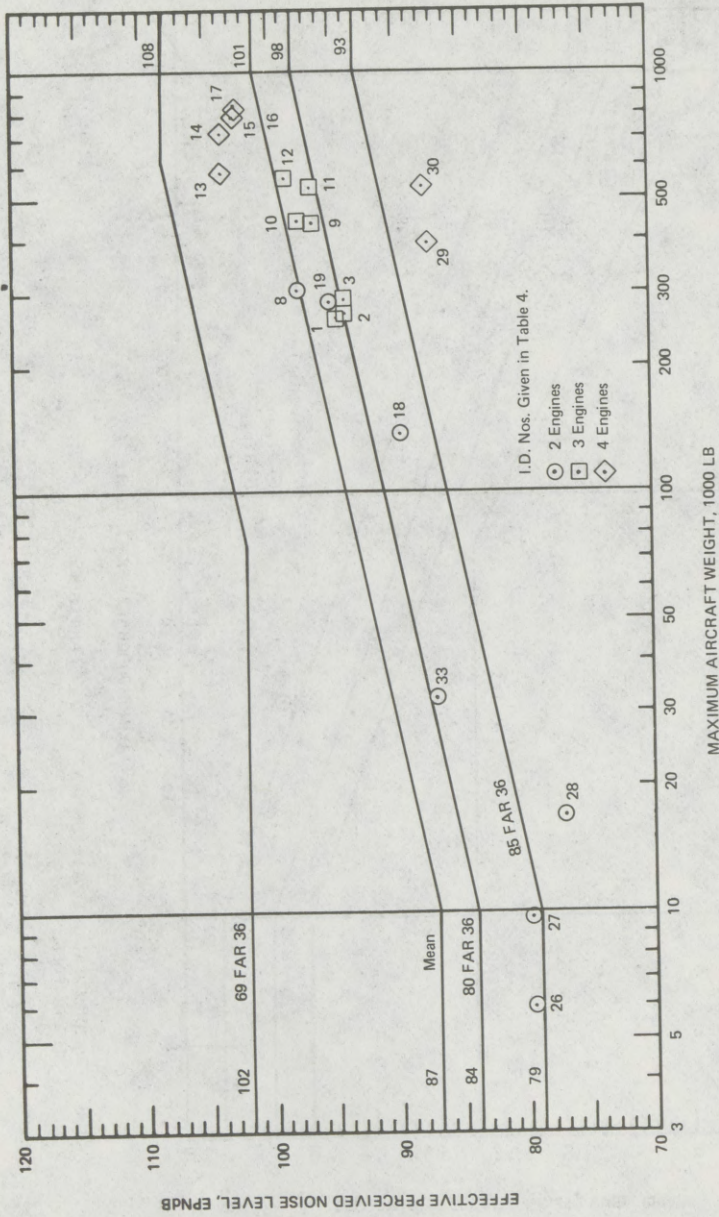


FIGURE 5. PREDICTED NOISE LEVELS FOR NEW TYPE DESIGN AIRPLANES.
(a) SIDELINE.

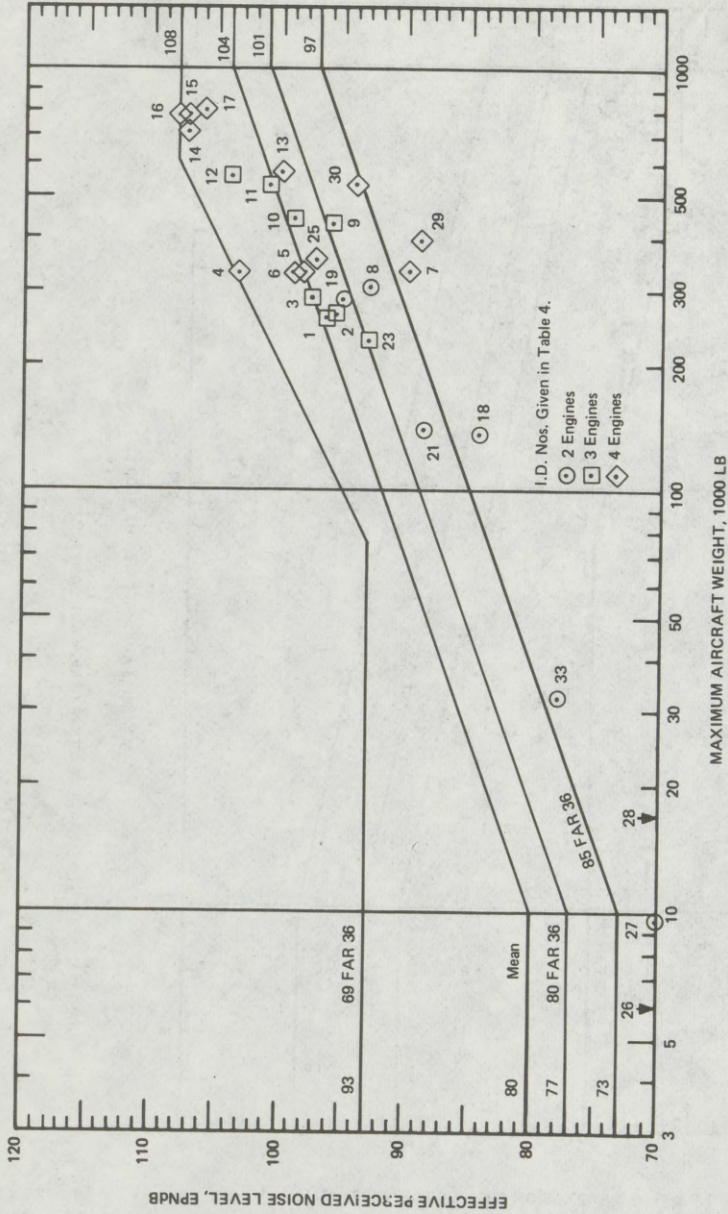


FIGURE 5. PREDICTED NOISE LEVELS FOR NEW TYPE DESIGN AIRPLANES.
(b) TAKEOFF.

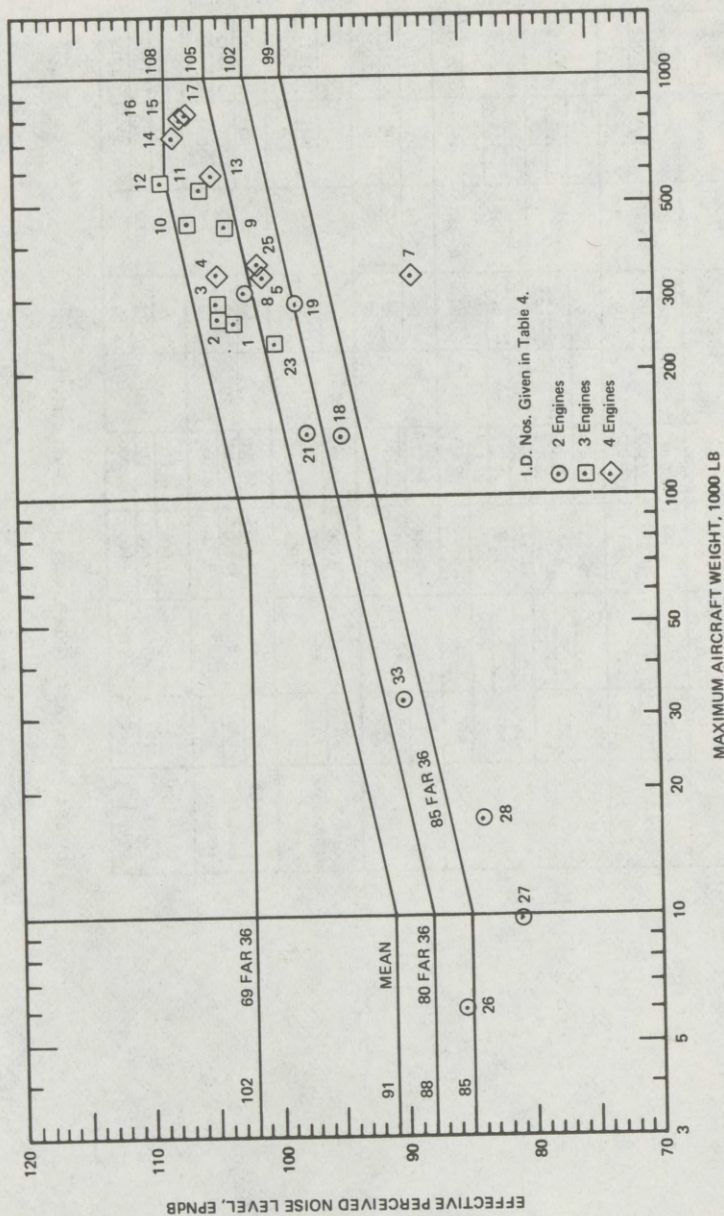


FIGURE 5. PREDICTED NOISE LEVELS FOR NEW TYPE DESIGN AIRPLANES.
(c) APPROACH.

General Formula: $EPNL = A \log(W) + B$

Case	Meas. Point	No. of Engines	Constants, dB		Limits					Slope dB Per W/2
			A	B	Lower		Upper			
					W 1000 lb.	EPNL EPNdB	W 1000 lb	EPNL EPNdB		
69 FAR 36	S/L	ALL	6.644	69.611		102				-2.000
	T/O		16.610	12.027		93		108	-5.000	
	APP		6.644	69.611	75	102	600		-2.000	
FAA WP/39	S/L	2		60.611	75	93		100		-2.000
		3	6.644	60.611	212	96	850		100	
		4		63.611	75	96		103		
	T/O	2		21.222	89	87		100		-4.000
		3	13.288	24.222	89	90	850		103	
		4		27.222	53	90		106		
	APP	All	6.644	65.611	75	98	850	105	-2.000	
ICAO WP/64	S/L	All	6.644	63.611		96	850	103	-2.000	
	T/O		16.610	8.027	75	89	800	106	-5.000	
	APP		6.644	65.611		98	850	105	-2.000	
Mean of 17 Airplane Sample	S/L	All	7.000	59.000		87		101	-2.107	
	T/O		12.000	32.000	10	80	1000	104	-3.612	
	APP		7.000	63.000		91		105	-2.107	
80 FAR 36 Available Technology	S/L	All	7.000	56.000		84		98	-2.107	
	T/O		12.000	29.000	10	77	1000	101	-3.612	
	APP		7.000	60.000		88		102	-2.107	
85 FAR 36 Future Technology	S/L	All	7.000	51.000		79		93	-2.107	
	T/O		12.000	25.000	10	73	1000	97	-3.612	
	APP		7.000	57.000		85		99	-2.107	

TABLE 1. FORMULAS FOR COMPLIANCE NOISE LEVEL CURVES.

I.D. No.	Airplane Type	Engine		Max. Wt. W KLB	Max. Thrust		Noise Level, EPNdB					Notes & Source of Data
		No.	Type		Per Eng. KLB	Tot. T KLB	T/W	S/L @ 0.25 NM	T/O @ 3.5 NM		App @ 1.0 NM	
									C/B	C/B		
1	DC-9-30	2	JT8D-7A	94.0	14.0	28.0	0.298	97.8	91.7	—	97.0	(1) FAA
2	DC-9-40	2	JT8D-15	114.0	15.5	31.0	0.272	100.5	95.8	—	99.4	(1) FAA
3	Cessna 500	2	JT15D-1	11.5	2.2	4.4	0.383	86.1	—	77.7	87.7	(2) FAA
4	Sabre NA265-80	2	CF700-2D-2	23.3	4.32	8.63	0.370	91.3	—	90.7	100.2	(3) FAA
5	Leerjet 35, 36	2	TFE 731-2	17.0	3.5	7.0	0.412	86.7	—	83.4	92.2	(2) FAA
6	Falcon 10	2	TFE 731-2	18.3	3.5	7.0	0.383	86.4	79.6	82.9	95.3	(4) FAA
7	Airbus A 300B	2	CF6-50A	302.0	49.0	98.0	0.325	95.3	90.2	—	101.3	(5) FAA
8	Corvette SN-601	2	JT15D-4	13.89	2.5	5.0	0.360	85.4	—	80.4	89.5	(6) FAA
9	F-28-1000	2	SPEY 555-15	65.0	9.85	19.7	0.303	99.5	90.0	—	101.2	(7) FAA
10	DC-10-10	3	DF6-6D	386.5	40.3	120.9	0.313	96.0	—	94.6	99.2	(6) FAA
11	DC-10-30	3	CF6-50A	550.0	48.4	145.2	0.264	95.7	—	103.7	103.0	(6) FAA
12	L-1011-1	3	RB 211-22C	396.0	42.0	126.0	0.318	95.2	—	96.0	101.5	(8) FAA
13	L-1011-100	3	RB 211-22B	496.0	42.0	126.0	0.280	94.9	—	97.4	101.5	(8) Lockheed
14	B-747-200B	4	JT9D-7W	785.0	47.0	188.0	0.239	101.5	—	107.0	104.0	(3) Boeing
15	B-747-200B	4	CF6-50E	800.0	52.5	210.0	0.263	101.5	101.0	107.0	103.0	(3) Boeing
16	B-747-SR	4	JT9D-7A	570.0	47.67	190.7	0.335	102.5	—	100.0	104.0	(3) Boeing
17	B-747-SP	4	JT9D-7A	660.0	47.67	190.7	0.289	102.5	—	104.0	104.0	(9) Boeing

Approach Flaps: (1) 50°, (2) 40°, (3) 25°, (4) 52°, (5) 20° Slats, (6) 35°, (7) 42°, (8) 33°, (9) 30°.

TABLE 2. NOISE LEVELS FOR CURRENT TECHNOLOGY EXISTING AIRPLANES.

I.D. No.	Airplane Type	Engine		Max. Wt. KLB	Max. Thrust		T/W	Noise Level, EPNdB				Notes & Source of Data
		No.	Type		Per Eng. KLB	Tot. T KLB		S/L @ 0.25 NM	T/O @ 3.5 NM With C/B	No C/B	App @ 1.0 NM	
1	B-7x7	3	CFM56/JT10D	255.0	—	—	—	94.5	—	96.5	102.9	(1) Boeing
2	B-7x7	3	CFM56/JT10D	263.0	—	—	—	93.9	—	95.7	104.1	(1) "
3	B-7x7	3	CFM56/JT10D	285.0	—	—	—	93.9	—	97.7	104.1	(1) "
4	Narrow Body	4	Quiet Eng. A	330.0	—	—	—	—	—	103.3	104.1	(1) (2) "
5	Narrow Body	4	Quiet Eng. A	330.0	—	—	—	—	—	98.2	100.6	(1) (3) (4) "
6	Narrow Body	4	Quiet Eng. A	330.0	—	—	—	—	—	98.9	—	(1) (3) (5) "
7	Narrow Body	4	Quiet Eng. A	330.0	—	—	—	—	—	90.0	89.0	(3) (6) "
8	New Type Design	2	CF6	302.0	—	—	—	97.5	—	93.0	102.0	(1) "
9	New Type Design	3	RB-211	430.0	—	—	—	96.5	—	96.0	103.5	(1) "
10	New Type Design	3	CF6	440.0	—	—	—	97.5	—	99.0	106.5	(1) "
11	New Type Design	3	JT9D	530.0	—	—	—	96.5	—	101.0	105.5	(1) "
12	New Type Design	3	CF6	555.0	—	—	—	98.5	—	104.0	108.5	(1) "
13	New Type Design	4	JT9D	570.0	—	—	—	103.5	—	100.0	104.5	(1) "
14	New Type Design	4	JT9D	710.0	—	—	—	103.5	—	107.2	107.6	(1) "
15	New Type Design	4	JT9D Wet	775.0	—	—	—	102.5	—	107.2	106.9	(1) "
16	New Type Design	4	JT9D Dry	775.0	—	—	—	102.5	—	108.0	106.9	(1) "
17	New Type Design	4	CF6	800.0	—	—	—	102.5	—	106.1	106.5	(1) "
18	BAC-111-800	2	CFM56	137.0	22.0	44.0	0.321	89.7	84.4	—	94.7	(1) BAC
19	DC-X-200	2	CF6-50C	283.0	51.0	102.0	0.360	95.0	—	95.0	98.0	(1) AW&ST

(1) Max. App. Flaps: (2) Peripheral Sam: (3) Inlet & Exhaust Sam Rings:
 (4) Boeing Nacelle: (5) GE Nacelle: (6) NASA Original Goal:

TABLE 4. PREDICTED NOISE LEVELS FOR NEW TYPE DESIGN AIRPLANES.
 (a) I.D. NOS. 1 THRU 19

Mr. MINETA. I have no further questions of Mr. Elkins.

Thank you, Mr. Chairman.

Mr. ANDERSON. Thank you, Mr. Mineta.

A moment ago, I was asking about one of your proposals to FAA which required that all air carrier airports develop and implement noise abatement programs.

Another of EPA's pending proposals to the FAA proposes stage-V noise standards for aircraft designed after 1985. What criteria did the EPA use to establish the recommended noise levels for stage V?

Mr. ELKINS. Mr. Chairman, I think it would be helpful to look at that also in terms of our stage-IV proposals which were made at the same time.

We characterize technology in three different categories. One is "current technology," which is being used by a number of manufacturers for many applications. Then, the second category is "available technology," which is technology being used by one or more manufacturers in some applications. That is, it is available, but is not being used in many applications. The final category is "future technology."

The best way to look at our proposals, I believe, is that we would characterize FAA's regulation, which is stage III, as current technology; the stage IV as available technology, that is, technology that is being incorporated in some applications, but not across the board; and finally, the stage V, which is what we proposed for 1985, as the future technology.

Now, you asked specifically how did we arrive at—

Mr. ANDERSON. Just to clarify that a little bit. The current technology was stage III. Now, the FAR part 36 is basically stage II, then, isn't it? The current requirements that we are talking about meeting with retrofitting, that is stage II?

Mr. ELKINS. Yes; that is correct.

Mr. ANDERSON. But the current technology that you say is being used by most carriers—

Mr. ELKINS. By many.

Mr. ANDERSON [continuing]. By many—is stage III.

Mr. ELKINS. In production of new aircraft—the L-1011, the DC-10, the A-300, the 747, and of course, the 757 and 767 coming off the line soon.

Mr. ANDERSON. Now, stage IV, when you say it is available technology that is used by some applicants, or one or more, who would be doing that, then?

Mr. ELKINS. The L-1011, A-300 and the DC-10 meet what we have proposed as stage IV, with the three/two trade-off that is allowed for under—

Mr. ANDERSON. In other words, when you included them in stage III, you meant they not only met stage III, but also would reach stage IV.

Mr. ELKINS. That is correct.

Mr. ANDERSON. And nothing being utilized in any way or being worked on today meets the stage V?

Mr. ELKINS. That is correct. And you asked specifically how did we arrive at the stage V. We did that by looking specifically at the research that was ongoing and appeared to have favorable outcome, without any guarantee of that, and we projected then what

levels would be forthcoming if that research were successful. Those are the numbers which we put forth in proposed form for stage V.

You might say, "Well, that seems quite speculative. Should we promulgate such a rule?"

I think we need to put this in perspective. What we are talking about here is what kinds of aircraft should the design engineers draw on their drawing boards—not what they should produce in 1985, or whatever the year might be, but what is it they should be designing to submit to the FAA for approval of the design.

So what we are proposing is that if we want to have quieter aircraft produced in the year 2010 or 2020, we must give planning numbers to the industry at this point—so that they can design their aircraft as best as possible toward these quieter numbers, based on the fact that unless they do, the airports of this country will still be impacting their neighbors to a large degree.

Thus we saw the 1985 numbers as more planning numbers than firm numbers that would forever be held to no matter what could come out of the design and what came out of these research studies.

The studies that we have seen coming out of NASA since that time are encouraging, so I think that we were not really off base in making the stage-V proposal back in 1976.

I believe it was asked earlier what is the basic philosophical difference between the way EPA and FAA come at these problems. I think one basic difference is seen by the fact that the FAA has said that new design aircraft in the future should meet stage-III levels. Yet those levels are ones which are already being met by a large number of aircraft coming off the assembly lines today.

Our point is when you are trying to give some direction to the designers about the need for quieter aircraft, we would hope that the FAA would give them something to reach for, as opposed to saying, "Keep designing what you designed several years ago."

In other words, there is really no stretching, in our view, in the stage III proposals. Obviously, these levels are not being met by 727's and 737's, as you realize, but we are talking here about new design aircraft, not what the standards should be for aircraft now being manufactured.

Mr. ANDERSON. In making recommendations to the FAA that aircraft designed after 1985 meet stage-V requirements, did the EPA consider the costs to the manufacturer of the airlines of meeting these standards, and if so, what was your estimate of these costs?

Mr. ELKINS. I do not believe we had any cost figures for the 1985 figures—we did not go into any extensive cost analysis. We saw this as something that would come out in the comment period on the regulation and would be something that the FAA has more data on than ourselves.

I think that that has not proven to be true as the process has worked; the FAA has not to our knowledge done any further work in this area. So if we were to do further work, we would want to do more in the actual costing of these proposals.

The law as it is written does not require us to do that analysis, but I think in terms of having it more acceptable to the FAA in the future, we would probably do so.

Mr. ANDERSON. Now, you said that the planes that met stage IV—you listed the L-1011, the DC-10—what others meet stage IV?

Does the Airbus meet stage IV?

Mr. ELKINS. The Airbus comes close to that—

Mr. ANDERSON. But it does not quite?

Mr. ELKINS [continuing]. But not quite, no.

Mr. ANDERSON. OK.

Mr. ELKINS. I think they have problems on the approach. It depends whether you give them credit for reduced flaps. We were proposing in that regulation that they be certified with reduced flaps, and that would be about a 2 decibel credit. On that basis, they would meet the stage IV number.

Mr. ANDERSON. Are there any others, outside of those three, then, that would meet the stage IV?

Mr. ELKINS. The same comment would apply to the BA146-100 and the Cessna 500, but not the large aircraft.

Mr. ANDERSON. The reason I asked that, in other words, you are talking about design requirement after 1985 for stage V, and you say that stage IV, already we have the L-1011, the DC-10, the Airbus, with its credit on the reduced flaps, and possibly some others. Then my amendment that I introduced, to have them not manufacture a plane that did not meet at least the stage III requirement after 1983 was not too far out, was it?

It would seem to me I am really pretty conservative, then, to what you are suggesting, and my amendment was shot down because they said it was too costly, too impractical.

Mr. ELKINS. As I sat here and heard some of that discussion, Mr. Chairman, and as I understood the concern, the FAA had not yet examined what the technology would be that could be used on the 727 or the 737 to bring them into conformance with stage III, if in fact the manufacturer wanted to continue to produce those aircraft, nor had they yet finished the work on what the cost would be. And I heard some discussion that those should be known before the decision was made.

Mr. ANDERSON. There seems to be a gap, then, if what I suggested that we try to get the manufacturers to pick a date, throughout the year 1983, as the date that they should start, if they could not make anything that did not meet at least a stage III requirement after that time, and I was shot down because that was impractical and too costly. You are saying they are already making them that meet stage IV, but you are now suggesting that by 1985, they design a stage V.

Now, how do we bring the two areas closer together? Something is wrong here.

Mr. ELKINS. Some of it, though, relates to the philosophical view of how much the Federal Government should lead the industry and how much, instead, the Federal Government should repeat or emphasize what the industry has said they can do and shown they can do, and keep future aircraft from getting any noisier.

In other words, there is no guarantee that if we did not have Federal regulations that the aircraft would not get noisier in the future instead of getting quieter.

So some would say the regulations are primarily to solidify what has been shown to be feasible by the industry and to make sure that all comply.

Our view, and the one you have seen in other environmental regulations which the EPA has put forward, is if you have an environmental problem which is serious today and which will be serious in the future, and the steps you have taken in the past are not sufficient to cure that problem, one should ask the industry to take at least one more step toward seeking out new designs that will give some relief. That is pushing technology.

What we try to do in terms of our proposals to the FAA is not to dream up these ideas off the tops of our heads, but to look at technology which the manufacturers have already shown they can produce because they manufacture them today.

The question, though, is since they produce it in the L-1011, are we sure that they can produce it in the 727 and 737. There is no guarantee of that. I think maybe that is where we and the FAA have our disagreement about to what extent we should wait until we can prove for sure, either through Government research or some other means, that it is feasible, can be done and, in fact, is being done.

Mr. ANDERSON. And can be done at a price——

Mr. ELKINS. At a reasonable price.

Mr. ANDERSON [continuing]. Because we had the industry tell us that they could manufacture them, but there was the problem of the cost and the problem of getting customers at the cost.

Mr. ELKINS. Yes, and that obviously has to be taken into account; how much is this country willing to pay for the benefits that we get out of the reduced noise.

Mr. ANDERSON. Has the EPA made any grants under section 14 of the Noise Control Act to State and local governments for developing noise abatement plans for airports?

Mr. ELKINS. No, we have not made any grants under section 14 of the Noise Control Act. That is a new section which was added last year. Applications have been received in a number of areas, but I am not sure whether we have received any applications in the airport planning area.

Mr. ANDERSON. Does the \$13 million recommendation in the President's budget contemplate any grants by the EPA under section 14 for noise abatement planning for airports?

Mr. ELKINS. Yes, I think something like \$65,000; a relatively small sum. We are not planning to do a great deal of airport planning.

Mr. ANDERSON. Are you aware that the FAA makes grants under the ADAP program for noise abatement planning by airport operators—I am sure you are—and is there a need for both the FAA's program and the EPA's program?

Mr. ELKINS. Yes, we are aware of that and have been working on a cooperative basis with the FAA on several of these plans which they have funded under their demonstration program, which they have had for the last 2 years.

We think there is a role for us. We do not see it as a major fiscal role, but we see it as a way in which we can be involved in a helpful way, both to the FAA and to the community.

Specifically, we have relationships with these communities on noise matters across the board, not just in terms of aviation, and particularly, working with them on the issues of growth management and how they deal with growing noise sources and prevent encroachment.

We feel that there may well be situations where our funds could supplement the funds available under the ADAP program, and would go concurrently to the local community, or to the local planning group, to have them seriously do something about encroachment at the same time that the proprietor is looking at the problem of abatement on the airport property itself.

The reason we think this is important, Mr. Chairman, is that these plans that the FAA has normally funded under the demonstration program, and will under the ADAP program, result usually in ideas of ways in which the airport can be controlled in one way or the other to reduce the noise to some extent for the neighbors of the airport. And it seems inappropriate, in our view, to reduce this noise at the airport, if the neighborhoods just take advantage of that and creep even closer to the airport, to take up the slack that is produced by a good faith effort on the part of the airport proprietor to bring the noise down.

We would like to see a situation in which a bargain is struck between the proprietor and the neighborhoods. In many cases, these are different jurisdictions, as you realize.

Mr. ANDERSON. I thought they were always that way. I do not know a place where they are not always that way.

Mr. ELKINS. Yes, in most cases, I think you are correct.

Mr. ANDERSON. Usually, the big city goes out into rural areas where they are not, and build their airport in the other community, almost always.

Mr. ELKINS. You are right. That is the typical case.

Mr. ANDERSON. If you look at Atlanta, Chicago, everywhere I know of.

Mr. ELKINS. Los Angeles should not be carrying out its abatement program, without the Inglewoods of the country agreeing to control the land use in sort of a quid pro quo, an agreement that says: "OK, if you reduce the noise coming from your airport, we will try to keep the people from continually moving up and moving in even closer to the airport, in those cases where there is still vacant land." The proprietor should not act unilaterally if he can get this cooperative relationship with the other communities.

This is provided for to some extent under the FAA funding. To speak frankly, we have some relationships and credibility with some of these other communities, since we are not directly associated with the proprietor; we are not directly promoting the national air transportation system, and these sort of things. We do not look quite as suspicious when we go to a local mayor and say, "You really do need to take this land-use problem around this airport seriously."

I think that we can add our credibility to this process without supplanting the FAA financial relationship.

Mr. ANDERSON. Under section 4(c) of the Noise Control Act, the EPA is directed to coordinate Federal programs relating to noise research and noise control. How much of the \$13 million in the

President's budget goes to EPA's responsibilities for coordinating aviation noise research, and how many people are involved in this effort?

Mr. ELKINS. The money which we spend on a contractual basis is to produce the reports, which are the result of interagency discussions. We do not spend more than about \$100,000 a year producing such reports. We also put, I would say, 1 to 2 man-years on a continuing basis into chairing interagency committees and getting all the agencies to agree on where the research should be going, what the current research is, what the needs are, and how we might find some funding in someone's pocket to carry out some of this research.

Mr. ANDERSON. Does the EPA interpret its responsibilities as coordinator to require it to clear all projects for aviation noise research?

Mr. ELKINS. No; we have never thought that that was our function. I think that that would not be productive. It would be very difficult for us to control research in other agencies. I think that we would end up getting less research done that way than on a voluntary basis.

We find that on a cooperative basis, we have good agreement among the agencies about what the needs are. We do not see as much money spent on it as we would like, but we do not see ourselves in a dictatorial mode at all.

Mr. ANDERSON. Materials which you have submitted to the committee show that in 1978, NASA devoted 279 man-years to aviation noise research. The DOT devoted 4 man-years, and EPA devoted less than 1 man-year.

I also notice that the Chairperson of the Panel on Aviation Noise Research was from NASA. In view of the larger resources of NASA and DOT, aren't they in a better position to coordinate noise research than the EPA?

Mr. ELKINS. We had a Chairman from other than EPA, for the very reason that you implied in your former question. That is, if we were to chair this committee and try to take too visible a role in trying to control where the committee's deliberations should go, we would be accused of trying to dictate how NASA spends their money.

Instead, we have looked to more cooperative methods. It is advantageous to bring the agencies together, and we have the congressional mandate to do that, to look at aviation noise, transportation noise, and construction noise as a subject matter which cuts across agencies.

I think that other agencies could do this, but I think that we do have a perspective across the board in noise under our mandate which is helpful and that we are capable of doing this.

Mr. ANDERSON. You also submitted to the committee a summary of the proceedings of an EPA noise technology research symposium, conducted in Dallas in January 1979.

In studying the document, we noted that there were aviation subgroups established to consider airplanes, rotor and propeller noise, propagation, and engine noise. Each subgroup had about 10 members. EPA was represented on only two of the subgroups and only had one person on each of the two.

Again, doesn't it suggest that the EPA does not have sufficient staff to play the primary role in aviation noise research?

Mr. ELKINS. Mr. Chairman, we are the ones who put that group together. We took the initiative to do it. We had people at those meetings. By the fact that we were not trying to take the leadership role, it seems like we are damned if we do, and damned if we do not. We are trying to have a cooperative relationship across the government.

I think if you will ask the other agencies, they will agree that in the research area, we have been a factor for good cooperation, instead of being a dictator. And obviously, if you ask whether we would like to have more staff in this area; yes, we would like to have more people. We only have 105 people for the whole area. But we think we are adequately staffed to do the kind of work that we have been doing.

Mr. ANDERSON. Mr. Snyder?

Mr. SNYDER. Thank you, Mr. Chairman.

Mr. Elkins, not to belabor the point, but I have thumbed through your testimony from when you were here before, and I do find that you, in response to questions, touched on two sections—and as I say, I thumbed through it; I did not read it carefully—that might deal with title I. One is that you mentioned to the gentlelady from New York, the desire that planning be made mandatory, in regards to some questions by Mr. Harsha, Mr. Taylor and others. And also, you touched on the issue of people moving into an area, with regard to some observations of mine and Mr. Levitas'.

But you did not, I believe, deal with the rather lengthy three or four pages that you presented before the other committee. And I would have to observe that I do not think that you knew what questions were going to be asked you before you came up here. And, therefore, I have to conclude that in preparing your formal testimony before coming up here, that you did not focus on title I as being anything objectionable, until after you got your instructions from OMB.

Mr. ELKINS. Mr. Chairman, I would like to review that testimony. I think I touched on some other points, and if I could, I would like to respond further later on that.

But I would like to say that this conversation between us and your committee began in 1977. We are not talking about just this year. We have had various conversations with your staff, even before the original bill—

Mr. SNYDER. Mr. Elkins, I do not question that, but you were up here testifying on three bills.

Mr. ELKINS. That is correct.

Mr. SNYDER. That is what you were here talking about. That is what you were supposed to direct your attention to at that testimony. And you did not direct any of your prepared testimony to title I, but you have as the bill came out, and none of it by virtue of amendments to put in.

I do not want to belabor that point any further. I have made my point. But I will ask unanimous consent that you be given the permission that your request to amplify your answer however you want to, because I want to try to be fair about it.

Mr. ELKINS. Thank you.

Mr. ANDERSON. No objection; so ordered.
 [The following was received for the record:]

Question. Did EPA act fairly in providing testimony to the Commerce Committee on EPA concerns with Title I during their referral hearings on the aviation noise reduction bill? Did EPA present views to the Commerce Committee that it did not present earlier to the Public Works Committee?

Answer. We can understand that it may appear that we provided far more extensive comments to the Commerce Committee than to the Public Works Committee on this bill since our prepared statements were sixteen pages and four pages, respectively. However, we believe that if you look at the total EPA testimony before your Subcommittee, including approximately two hours of oral testimony, you will find that not only did EPA present almost all the same ideas to both Subcommittees, but we were even more explicit on certain points in our comments to your Subcommittee. The reason that the testimony before the Commerce Committee is nearly identical on so many points is that we used a copy of the transcript of your Committee's hearings to draft our testimony six weeks later for the Commerce Committee. In addition, we added comments in our later testimony on new provisions which were included by your Committee after our testimony.

The apparent unfairness in our appearances before the two Committees came from the fact that our extensive comments before your Committee were presented in answer to questions while these same comments were included in the formal statement before the other Committee. We believe this is a legitimate concern, since a written statement is often seen as more authoritative than an oral response. We were cognizant of a great deal of interest from your Committee and anticipated a significant amount of questioning on Titles I and III, even though we could not be sure what specific questions would be asked. Nevertheless, our oral statements are an expression of the Agency's position just as much as our written statements. Having once made these comments to your Committee, we felt we were obligated to provide them to the other Committee. This point plus the interest within the Administration to be explicit about why we do not like Title I of the bill (in addition, of course, to Title III) led us to include a recital of these points already raised with your Committee.

In our prepared testimony before the Commerce Committee, 11 of the 16 pages deal with the Senate version of this bill and most of these comments are not directly applicable to the House bill. Only two of the remaining five pages deal specifically with problems with Title I of the House Bill.

The attached table compares the two sets of testimony and shows that of the four items in question, three of them were dealt with in depth before your Committee. The fourth briefly addresses Section 105 which requires plans for National and Dulles Airports. Our objections to this section were not mentioned in our testimony before your Committee. On some Title I issues, more explicit discussion was provided your Committee than was provided the Commerce Committee. In short, essentially the same subject matter was contained in both sets of testimony. The differences, to the extent they exist, are explained by the passage of six weeks and further staff work to present our views in a clear fashion.

We hope that this information will clarify the record with regard to our appearances before the two Committees. We believe we have dealt with your Committee openly and fairly and have not held back comments which we have then provided to another Committee. We have tried to provide our views to both Committees as requested in order to assist with the legislative process.

EPA TESTIMONY BEFORE THE PUBLIC WORKS COMMITTEE (APRIL 24, 1979)
AND COMMERCE COMMITTEE (JUNE 7, 1979)
ON AVIATION NOISE REDUCTION BILLS

<u>SECTION AND SUBJECT</u>	<u>COMMERCE COMMITTEE</u> (Prepared Statement)	<u>PUBLIC WORKS COMMITTEE</u> (Transcript page where similar comment is discussed)	<u>COMMENT</u>
103 & 104: Preparation of maps and noise compatibility plans	a) Some airports refuse to plan. b) Small, quiet airports can prevent future problems by planning. c) Local officials have very little incentive to control land use.	a) Implied on p. 48, 49, 55 b) No specific comment on this point. c) p. 48, 49, 54, 55	Public Works testimony was even more explicit than Commerce testimony regarding the need for mandatory planning and withholding of ADAP funds.
106 & 107: Limitations on suits for compensation: maps and degree of damages.	a) Protection for proprietor should not be given unless he takes significant abatement action. b) The price paid for property does not always reflect noise damages. c) Publication of existence of map is not adequate notice. d) Impossible burden of proof.	a) p. 43, 40-41 b) p. 46 c) Touched on indirectly on p. 29, 30 d) p. 41	Details of "constructive notice" added by Committee after testimony given (Item C).

<u>SECTION AND SUBJECT</u>	<u>COMMERCE COMMITTEE</u> (Prepared Statement)	<u>PUBLIC WORKS COMMITTEE</u> (Transcript page where similar comment is discussed)	<u>COMMENT</u>
105: Plans for National and Dulles Airports	a) Bill has no criteria for acceptability of plan. b) No requirement of public participation. c) No requirement for implementation of plan.	No comments on this section were given to the Public Works Committee.	This was a minor comment in Commerce Committee testimony.
305: Exemption for two and three engine aircraft serving small and medium airports.	a) Not appropriate solution to problem. b) Two and three engine aircraft are important noise sources and should be abated even if retrofitted. c) Retrofit results are meaningful in terms of decibel reductions.	a) p. 23-25 b) p. 15, 17, 19, 27, 62, 66 c) p. 18-20	

Mr. SNYDER. Now, I have a couple of other questions. On these 11 proposals that you have made to FAA, what other formal document, other than the proposal itself, does EPA prepare and submit to FAA, which shows what alternatives you have considered, what costs are involved; how do you back up your recommendation? What documentation do you give them?

Mr. ELKINS. We prepare what is called a project report that accompanies these proposed regulations. Those project reports deal with the technical basis that we believe supports the conclusions.

To be fair, I think we do not do as extensive a review of all the data and present it all as we would if we were promulgating the regulation ourselves.

We do, as you know, promulgate regulations in other areas, and we do more staff work, more detailed studies in those areas, such as trucks and buses, than we have in the aviation noise area.

We felt at the time, and perhaps we were incorrect, Mr. Snyder, but we felt that, based on the legislative history and the language in the act, that these project reports actually went beyond what the legislation called for.

Mr. SNYDER. Do you comply with the Executive Order 12044?

Mr. ELKINS. Having to do with economic impact?

Mr. SNYDER. Well, it has to do with improvement of Government regulations, and indicates that there is a requirement for the development of a work plan and the performance of regulatory analysis.

Mr. ELKINS. That has not been an issue on any of these aviation regulations because, as you mentioned earlier, we have not proposed one in the last 2 years, and that Executive order is more recent.

With regard to all the activities of our office at the present time, we do comply with that order.

Mr. SNYDER. And if you submit anymore recommendations, I assume you will comply with the Executive order.

Mr. ELKINS. That is a legal point that I would want to consult counsel on.

Mr. SNYDER. You can submit your answer for the record.

Mr. ELKINS. Fine.

[The following was received for the record:]

Question. Will EPA apply the provisions of Executive Order 12044 to its activities in developing regulations for submittal to the FAA regarding aviation noise?

Answer. Executive Order 12044 requires a semi-annual agenda of regulations, Agency head oversight, and opportunity for public participation in regulations development. It also includes requirements for the approval of significant regulations, regulatory analysis for some regulations, and review of existing regulations. Some of these provisions would apply to an EPA proposal of regulations for consideration by the FAA. Others are more appropriately carried out by the FAA. For instance, EPA would include any proposed regulations in its semi-annual agenda for regulations, would provide for EPA Administrator oversight of the development of the regulation, and provide an opportunity for public participation in the development of the proposal. With regard to the preparation of rulemaking documents and supporting data, the respective allocation of responsibilities between the two agencies has been addressed within the Administration several times. The FAA has been given resources to do Environmental Impact Statements and similar documents in the area of aviation noise. The information which EPA develops contributes to the preparation of these materials but the ultimate responsibility for their preparation rests with the FAA.

Mr. SNYDER. You have made reference just a moment ago to what your statutory obligations were. It is not an obligation but it

is a right under the statute for you to formally request FAA to review a proposal that has been rejected. How many times have you done that?

Mr. ELKINS. We have not done that on any occasion.

If your followup question is "Why?"

Mr. SNYDER. That is a good question you just propounded for me. Go right ahead.

Mr. ELKINS. All right. If your question is "Why?" we have felt, based on our conversations with the FAA, that they were not receptive to the proposals which they have rejected, and that it would not be useful for us to proceed further.

We have reserved the right to come back to them in those cases where we felt that we would have more data that would, perhaps, persuade them.

I think the main point here is that we are not engaged in a big debating contest with them to see who can debate better. That serves no useful purpose, and it is embarrassing to them as well as to us, perhaps. But what we are trying to do is to reach agreement—

Mr. SNYDER. Why would that be embarrassing to try to convince somebody that you have got a good proposal?

Mr. ELKINS. What I meant was we do not—

Mr. SNYDER. We do that all the time over here on the floor of the Congress, trying to convince our colleagues that we have a good proposal. They call it debate, and I do not know that it is embarrassing to anybody.

Mr. ELKINS. I guess I used the wrong word. I was just trying to say that yes, we believe in discussion of the facts with them in and trying to persuade them of our point of view. But to carry it on and on and on after they have responded and said they do not agree and that they think that we should have more facts, and then say "No, you do not need anymore facts," we felt was not very useful.

They have the final—

Mr. SNYDER. Would you recommend that we amend this bill to delete the reconsideration proposal, then, since you do not want—

Mr. ELKINS. No. I think that it is a potentially useful mechanism. Without that as an ability to carry the discussion further, I think it would put into jeopardy the whole provision for our consultation.

Mr. SNYDER. You responded to the chairman that you have not made any planning grants under section 14, which was enacted last year. Was there any money in your current budget for that purpose?

Mr. ELKINS. We have not given any grants to anyone. In the case of Atlanta, Omaha, Fort Lauderdale, and Rochester, in cooperation with the FAA, we have given staff assistance, and we have given the assistance of our contractors to the FAA and to those airports in preparing plans which they are conducting under the—

Mr. SNYDER. My question was is there any money in your current budget for the purpose of those grants?

Mr. ELKINS. I think there is \$50,000 for airport planning process in 1979.

Mr. SNYDER. Do you intend to spend that money for grant purposes between now and October?

Mr. ELKINS. If we have a suitable application, yes, sir.

Mr. SNYDER. Have you got any applications pending?

Mr. ELKINS. I would have to review that and tell you. I honestly do not know.

Mr. SNYDER. You will submit your answer?

Mr. ELKINS. I will submit my answer, yes, sir.

[The following was received for the record:]

Question. Has EPA received any applications for grants for airport planning for fiscal year 1979?

Answer. Aside from a grant application from the Delaware River Valley Regional Planning Commission for assistance with the specially mandated Philadelphia Airport Study, EPA has not received any applications specifically for airport planning. Several applications have been received, however, for comprehensive transportation noise abatement planning which would include airport planning.

The grant program is new and has not been publicized in any comprehensive manner, so we did not expect many applications for this year. In the past, we have received more requests for assistance on airport planning under our Technical Assistance program than we have been able to meet. Through the use of contractors and in-house staff, we have provided assistance to a number of airports, however. At the present time we are involved with such support at Omaha, Atlanta, and Ft. Lauderdale.

A great deal of our assistance is directed to local officials and planning officers in communities surrounding airports. The FAA does not have the authority to give planning grants to such communities, only to airport proprietors. The EPA Grant Program will supplement the FAA program by assisting local communities to look at compatible land use options around airports. As indicated in our testimony, EPA has the rapport with community officials on noise generally and this allows the Agency to be effective in the area of airport planning, with special emphasis on comparable land use.

Mr. SNYDER. It sounds to me like your grant program, \$50,000 in the current year and \$65,000 in the proposed fiscal year 1980 budget, is about equal to what you folks down there have been doing on aviation. I believe \$50,000 might get you one good planner at one airport; \$65,000 might get you a planner-and-a-half, since you all seem to divide your aircraft noise people in half down there. I have an observation about it, but it can hardly be made in mixed company. But I have run across some of these half-bureaucrats. So I know how you divide them up; I understand it.

But what can you do with \$50,000 or \$65,000 in the way of a grant program? For even one airport, it is bound to take more than one fellow working on the plan, if you just pay his salary.

Mr. ELKINS. As I indicated, we would try to institute this in such a way that in the airport area we would provide a supplemental grant in the case where the FAA had provided funding to an airport to do airport planning.

Mr. SNYDER. Well, what is the logic behind that, Mr. Elkins? What is the sense? If FAA makes an airport planning grant under ADAP, and then you come by and say, "Well, we want to use another \$10,000 or \$15,000," why have two sets of bureaucracies to do that? I do not follow the logic, quite frankly.

Mr. ELKINS. In any case where we give a grant, we also provide technical assistance by the use of our staff. Both in our regional offices and—

Mr. SNYDER. But that is not out of the grant money, is it?

Mr. ELKINS. It is not paid for out of the grant money, but if we give a grant, we provide assistance to the grantee. And as I tried to indicate earlier, we feel we have expertise and experience and rapport with the communities who are looking at—

Mr. SNYDER. Over and above what FAA has, with a much expanded staff and a much expanded grant program?

Mr. ELKINS. In the land-use area, I think that is correct; yes. We are talking about both rapport and—

Mr. SNYDER. Your statement is that you have better expertise, knowledge and rapport with the local community—talking about airports, now—with as much as 2½ people assigned to it, and with \$50,000 to \$65,000 in grant money, that you have the better of these qualities with these local communities around airports than FAA.

Mr. ELKINS. Mr. Snyder, I have indicated that in the other program outside the aviation area—

Mr. SNYDER. All we are talking about today is aviation.

Mr. ELKINS. That is right, but you have to connect these up, otherwise it is hard to see—

Mr. SNYDER. Oh, I know they have jackhammers on runways now and then, and they have roadways going into airports. But we are talking about airport planning and airport noise. I hope that you are not saying that—

Mr. ELKINS. I am saying that land use planning in terms of traffic noise, in terms of compatible land use, is similar to compatible land use around airports, yes, sir.

Mr. SNYDER. I did not say it was not similar.

Mr. ELKINS. Therefore, the expertise is transferrable, is our argument, and that rapport which we have developed with the communities is a valuable asset.

Mr. SNYDER. Well, I am not going to argue it any further, but you just have not convinced me at all that these people that are out here working on highway noise have got better expertise that can be transferred over to the aviation sector of your operation than the FAA has, where people are dealing with it full time—or that your people in your highway section or your jackhammer section have got any more expertise that can be transferred over there than the people in your own section dealing with FAA. I just do not follow it.

I understand what you are saying; I just cannot believe it.

Mr. ELKINS. If I could just add one more comment, and that is that most of the people who work with States and localities in the noise program within EPA are not categorized by a product—construction noise or traffic noise or anything of that sort—they are categorized more in terms of function. Therefore, to the extent that land use is a facet of our general grant program to States and localities, it would be applicable to the airport problem. And you will not find it in the budget, listed under jackhammers, or traffic, or—aviation.

Mr. SNYDER. That is right, and your testimony is that you have got 2½ people doing this airport business down there—and I am not sure whether it is one or two full time; I think it is one full time, and the other 1½ is three halves, which are transferred apparently between different areas in regard to their responsibilities, and you assign that much of their responsibility to them, or at least, they use it that much. And I just do not follow your line of thinking, but I guess being from down home, I am a little bit dense about some of these things.

Thank you, Mr. Elkins.

Mr. ANDERSON. Are there any further questions?

Mr. Fary?

Mr. FARY. No questions.

Mr. ANDERSON. Mr. Gingrich?

Mr. GINGRICH. Yes; I would like to pursue a couple of points, if I could, Mr. Chairman.

Do you have any way of breaking down the percent of the time that your 105 permanent full-time employees, what percent of their time is spent coordinating and cooperating, versus doing? Between all the agencies you talk with, it seems to me you spend most, or a very high percentage of your time talking with other agencies.

Mr. ELKINS. No. I think in aviation noise, that is sort of forced upon us more than in the other areas because of the structure of the act. But in the case of traffic noise, we have the primary responsibility to promulgate the product regulations. We have the primary responsibility to work with local communities.

So therefore, DOT is in a cooperative mode with us, but except for the enforcement of two of those regulations, it is a small percentage of the time.

Mr. GINGRICH. On nonaviation traffic noise, they have to cooperate with you; on aviation noise, you have to cooperate with FAA. Is that the essence?

Mr. ELKINS. That is closer to it, although obviously, in the traffic noise area, they have relationships with the State departments of transportation, which are an important function of their own.

Mr. GINGRICH. OK. You mention that there are nine products subject to regulatory action. Could you list those nine products?

Mr. ELKINS. The products which we have regulated so far are trucks and portable air compressors; we have in proposed form regulations for motorcycles, buses, trash trucks, and wheel and crawler tractors, which are construction equipment. Not yet in proposed form, but already identified as products to regulate are lawnmowers and jackhammers.

Mr. GINGRICH. I would like to ask one other nonaviation question, and then I will get back to aviation. When you propose, for example, a noise regulation for buses, do you coordinate with the Department of Energy to see if it will increase or decrease bus mileage?

Mr. ELKINS. Yes, we do. That is a major consideration.

Mr. GINGRICH. You mention that you help communities obtain the services of older Americans paid for through other Federal funds. How does that relate to noise?

Mr. ELKINS. Many times, a local community will need manpower to carry out a portion of their noise control programs, particularly at the phase where they need to do surveys for the physical environment and the social environment. Instead of having to hire them on the city payroll, which can be expensive, we have assisted them in getting the assistance of people who are paid for through Department of Labor funds.

Mr. GINGRICH. Would this be CETA, or what?

Mr. ELKINS. CETA particularly, but also the older american program, which is a HEW program for people above 55, I believe.

Mr. GINGRICH. OK. You have put a good bit of evidence in on helping with land-use planning at the local level, trying to help them work toward zoning more appropriately near airports.

Does HUD have any kind of program to help in terms of land-use planning; do you coordinate with them?

Mr. ELKINS. Yes, we do. We have an interagency Urban Noise Committee, of which they are cochairman of the Land Use Task Force.

They do have a program—a very helpful one—in which they require that in order to get funding for HUD assistance that certain noise standards must be met. This has been one process by which land-use developers can——

Mr. GINGRICH. Is aviation noise included in this, then?

Mr. ELKINS. Yes, it is.

Mr. GINGRICH. Finally, in terms of this one small segment, I must say that your report on traffic is far more impressive than on aviation—and I know you were well aware of that when you came here. What effect would returning those responsibilities to FAA have, in your judgment?

Mr. ELKINS. Returning all of the aviation responsibilities?

Mr. GINGRICH. The aviation noise only.

Mr. ELKINS. I think the decisionmaking with regard to aviation noise matters would be done without full exploration of proposals which would be more environmentally protective.

This is one of the rare cases where environmentally protective regulations are written by the agency which has responsibility for promotion of the particular activity. In other areas, such as radiation, these functions have been separated. Even in the case of air emissions from airplanes, EPA sets the standards for area emissions. But in the case of noise, it is divided, with the FAA retaining the final responsibility, and I think that we have been successful in urging them on to looking more seriously at the more fully protective——

Mr. GINGRICH. So you figure they have done substantially more since the establishment of your office than they would have done otherwise?

Mr. ELKINS. Yes; and it goes back to how can I prove that. At the time we started and put out a report about what we felt was necessary, FAA had done very little. Now they have done a great deal more. They get credit for doing that, though. They did it with their staff, and they should be given credit but I think we should get some credit too.

Mr. GINGRICH. Thank you.

Thank you, Mr. Chairman.

Mr. ANDERSON. Any further questions?

[No response.]

Mr. ANDERSON. Thank you very much, Mr. Elkins and Mr. Schettino, for your presentation.

Our next witness is John Wesler, Associate Administrator for Policy and International Aviation Affairs of the Federal Aviation Administration.

Mr. Wesler, I am informed that you do not have a prepared statement, but are appearing at the committee's request to answer questions. Is that correct?

Mr. WESLER. That is correct, sir.

**TESTIMONY OF JOHN WESLER, ASSOCIATE ADMINISTRATOR
FOR POLICY AND INTERNATIONAL AVIATION AFFAIRS, FED-
ERAL AVIATION ADMINISTRATION**

Mr. WESLER. Good morning, Mr. Chairman and members of the subcommittee, I am John Wesler. I am the Associate Administrator for Policy and International Aviation Affairs. I am also the Director of the FAA's Office on Environment and Energy. I am here, I guess, in both capacities this morning.

I would be pleased to answer, to attempt to answer, any of your questions on either H.R. 3995 or the other bills that you request.

Mr. ANDERSON. I have some questions.

Mr. Wesler, under the Noise Control Act, the EPA has made 11 recommendations to the FAA. How many of EPA's recommendations has the FAA adopted, and can you point to any recommendations by the EPA which raise issues or concepts which the FAA was not already aware of?

Mr. WESLER. Of the 11 proposals which the EPA has submitted to us, we have acted on 9 and we have adopted all or parts of 5 of those 9.

I would characterize generally those proposals to us as concepts that had been around for some time, or that we had proposed ourselves. There are some new concepts which were proposed, particularly in the most recent proposal they submitted to us, that of the airport noise planning process.

Generally, however, most of the other proposals were proposals which we had already considered and in many cases, already published for public consideration.

Mr. ANDERSON. Do you think that EPA's recommendations have been a major factor in guiding FAA's aviation noise program?

Mr. WESLER. I believe certainly that the impetus that was given to us by the Noise Control Act of 1972, along with the impetus, perhaps, of EPA's proposals to us, have certainly helped.

Mr. ANDERSON. EPA's last two noise recommendations were made to the FAA in 1976. The FAA has not yet taken final action on these proposals. Are we to conclude from this slow pace that the FAA does not consider the EPA's proposals to be important proposals?

Mr. WESLER. No, sir, I do not believe that is so. Of the two that have not been acted upon to date, one is that dealing with the stage IV and stage V type of proposal, which you discussed somewhat earlier with Mr. Elkins. We are still analyzing the technological practicability and economic reasonableness of those proposals, as we are required to do under the Federal Aviation Act and the Noise Control Act.

We are still evaluating the airport noise evaluation process, along with our own proposals in this particular area.

As you know, Mr. Chairman, we have a number of planning grant programs underway, at a total of 29 airports at the present time, along with other such plans being done as part of the master planning process at a number of other airports.

We are essentially trying to evolve the best approach that the FAA should adopt for this noise planning process.

Mr. ANDERSON. Don't you feel that something proposed in 1976, when we are almost in 1980, 4 years, is kind of a long time not to have taken some action on the recommendations?

Mr. WESLER. That is true, sir. It is embarrassing to say that we have not responded to those last two.

Mr. ANDERSON. In developing noise regulations, has the FAA relied on any research and studies conducted by the EPA, or do you do your own studies and research?

Mr. WESLER. I believe, sir, that we attempt to use the results of research wherever we can get it, whether it be EPA's, whether it be NASA's, whether it be our own.

Mr. ANDERSON. I understand that under ADAP, the FAA has made grants to airport operators to plan airport noise control and land use compatibility programs. Could you tell us how many grants have been made, the number of airports involved, and the dollar total of these grants?

Mr. WESLER. We have begun a 2-year pilot program which was announced first by Secretary Coleman and Administrator McLucas in November of 1976, as part of our aviation noise abatement policy.

Since that time, we have granted 29 airport noise control and land use compatibility planning grants. Of the 29, 4 were in fiscal year 1977, and 25 were in fiscal year 1978.

The total funding to date is on the order of \$4 million for those 29 programs, of which the Federal share averages approximately 80 percent, the local sharing approximately 20 percent in addition to that.

Mr. ANDERSON. Has the FAA published any materials on airport land use compatibility planning?

Mr. WESLER. Yes, sir. We have published a number of guidance documents, guidance reports. We have provided a computerized—we call it an Integrated Noise Model—a computerized procedure for conducting calculations and producing contours for noise exposures around airports. We have conducted a series of seminars throughout the country in terms of aviation noise policy, its implementation, bringing it up to date; a series of workshops around the country to teach our own people, as well as airport personnel, how to conduct and how to do noise control planning for airports.

We are at the present time in the midst of a series of seminars on community participation for exactly this same purpose, to allow our own people to become more familiar with and more practiced in bringing the public, bringing the communities around airports into the planning process.

Mr. ANDERSON. You have partially answered this, but I would like to get it for the record. Does the FAA run any courses for airport operators or State aviation officials on land use planning?

Mr. WESLER. Yes, sir. As I mentioned, we have had a series of seminars. We also have courses at our Federal Aviation Administration Academy in Oklahoma City for this purpose.

Mr. ANDERSON. Under section 14 of the Noise Control Act, the EPA can make grants to States and communities for airport noise abatement planning. Is there an undesirable overlap between this program and the FAA's planning grant program under ADAP? If

both programs are needed, wouldn't it produce uniformity and coordination for the FAA to run both programs?

Mr. WESLER. We believe there is the possibility of some redundancy, some overlap in this, sir. As Mr. Elkins has testified, there have been no grants, so we have no experience to date.

Mr. ANDERSON. Mr. Elkins, I believe, testified that the EPA proposal for airports would permit an airport to submit a worthless plan and have that plan approved.

Is this your interpretation of the proposal?

Mr. WESLER. I would hope, sir, that we would not permit a worthless plan to be accepted or adopted by the FAA.

Mr. ANDERSON. I think that was a way—they said they have to submit a plan, but if they do not want to comply, they submit a useless plan, and they would still be complying with the law.

Now, are you saying this is not the way it would be in the regs?

Mr. WESLER. This is under the EPA proposal to us, sir, which is still under study, as I mentioned. I was just saying philosophically that I doubt we would accept a meaningless or a worthless plan. If we were to provide funding grant money to do a plan, I think we would be certain that it be meaningful and it be useful.

Mr. ANDERSON. They have to submit the plan for approval. Then, what happens—do you have a right, then, to turn that plan down, even if it is worthless?

Mr. WESLER. Yes, sir.

Mr. ANDERSON. Then what happens to their plan?

Mr. WESLER. They would be required to do it to our satisfaction.

Mr. ANDERSON. That is a different interpretation, I think, between the two agencies.

Mr. WESLER. I think it is, sir. I would hate to see a meaningless plan generated. I think it would be a waste of money.

Mr. ANDERSON. Well, if that was the way to get around the law; I mean, if that is what a city had to do in order to be able to get their plan approved and get money and comply with ADAP or planning grants or something, if they had to have their plan approved, they could submit a worthless plan.

And that was my question to Mr. Elkins, and he said that it could, and we question that, and you apparently do, too.

Mr. WESLER. I would not say that we would accept a meaningless plan, sir.

Mr. ANDERSON. Mr. Snyder?

Mr. SNYDER. Thank you, Mr. Chairman. Excuse me for being gone a few minutes. I will try not to duplicate what you have asked.

The chairman did ask before I left what proposals they had made to you and how many, and I think you said you had adopted all of the parts of five of the nine.

Mr. WESLER. That is correct, sir.

Mr. SNYDER. Which of the proposals were similar to earlier proposals that have been ultimately rejected by FAA?

Mr. WESLER. I can go through these one at a time, if you wish, Mr. Snyder, or I can prepare that for the record.

Mr. SNYDER. For the interest of time, why don't you put it in the record, if that is all right with the chairman.

Mr. WESLER. I would like to correct perhaps one misunderstanding that Mr. Elkins may have left with you. He mentioned, for example, the first proposal which they sent to us, dealing with the propeller-driven small airplanes and indicated that we rejected it and have done nothing.

In fact, we had issued our own notice of proposed rulemaking on that subject over a year prior to the EPA's submission to us on that subject. On the day in which they submitted their proposal to us on that subject—that is, propeller-driven small airplanes—we were ready to publish our final rule. We did, in fact, publish our final rule 1 month later.

I believe Mr. Elkins may have indicated that we rejected his proposal and did nothing about it. We had in fact already a rule ready to publish, and we did do so.

Mr. SNYDER. Well, when you give me the list you are going to give me, you can amplify it with that kind of observation, if you would, because that would indicate that it was similar to an earlier proposal that you had already made. And if you would identify the new concepts that they proposed in their either 9 or 11 suggestions that they made, when you submit that, for the record, I think that will be sufficient.

[The following was received for the record:]

SUMMARY OF EPA AIRCRAFT NOISE PROPOSALS TO FAA

1. Noise Standards for Propeller-Driven Small Airplanes.

Received by FAA	December 6, 1974.
FAA Notice No. 74-39:	Issued December 31, 1974 (40 FR 1061; January 6, 1975).
FAA Hearing:	Held March 3, 1975; (40 FR 4478; January 30, 1975).
Comment Period Closed:	March 7, 1975.

The EPA proposal would lower the noise limits of Appendix F of FAR Part 36, require use of EPNdB as the noise descriptor unit, and make several changes to the noise test procedures.

An amendment adopting parts of EPA's proposal and a notice of decision not to prescribe regulations on the balance of the proposal were drafted. An NPRM proposing requirements for certain agricultural and firefighting airplane operations not covered by the EPA proposal were also prepared.

FAR Amendment 36-6:	Issued December 17, 1976 (41 FR 56056; December 12, 1976).
Notice No. 76-27:	Issued December 17, 1976 (41 FR 56065; December 12, 1976).

2. Noise Abatement Minimum Altitudes for Turbojet Airplanes.

Received by FAA:	December 6, 1974.
FAA Notice No. 74-40:	Issued December 31, 1974 (40 FR 1072; January 3, 1975).
FAA Hearing:	Held March 5, 1975; (40 FR 4478; January 30, 1975).
Comment Period Closed:	March 7, 1975.

The EPA proposal would amend Part 91 to add a definition of "terminal areas" and to prescribe minimum altitudes for turbojet airplanes within those areas. These requirements are similar to provisions of the FAA "Keep 'Em High" Air Traffic Control Order.

A notice of decision not to prescribe regulations based on EPA's proposal was published which noted the new ATC Order 7110.22B involving high profile descent ("Local Flow Traffic Management").

Notice of Decision: Issued November 15, 1976
(41 FR 52393; November 29, 1976).

3. Turbojet Aircraft Noise Retrofit Requirements.

Received by FAA: January 28, 1975.

FAA Notice No. 75-5: Issued February 20, 1975
(40 FR 8218; February 26, 1975).

FAA Hearing: Held March 18, 1975;
(40 FR 8243; February 26, 1975).

Comment Period Closed: April 14, 1975.

The EPA proposal would require noise retrofitting (or retiring) the current turbojet fleets to achieve compliance with Part 36 noise levels by June 1978. The proposal was similar to FAA's Notice No. 74-14 but proposed to apply the noise limits to aircraft weighing 75,000 pounds or less.

The President announced (October 21, 1976) Federal decision to require compliance to Part 36 by current domestic air carrier fleet within eight years. An appropriate regulation was prepared, including a notice of decision not to prescribe regulations at that time applicable to aircraft involved in foreign commerce ar weighing 75,000 pounds or less.

FAR Amendment 91-136: Issued December 17, 1976
(41 FR 56046; December 23, 1976).

4. Aircraft Fleet Noise Level Requirements.

Received by FAA; January 28, 1975.

FAA Notice No. 75-6: Issued February 20, 1975
(40 FR 8222; February 26, 1975).

FAA Hearing: Held April 17, 1975;
(40 FR 8243; February 26, 1975).

Comment Period Closed: April 25, 1975.

The EPA proposal would require periodic aircraft operator reporting and FAA publication of aircraft fleet noise level data developed in accordance with a complex logarithmic formula. FAA had previously published a similar proposal on January 24, 1973.

A notice of decision not to prescribe regulations based on EPA's proposal was published in light of the decision to require retrofitting or retirement of aircraft.

Notice of Decision: Issued November 15, 1976
(41 FR 52399; November 29, 1976).

5. Two-segment Approach and Reduced-Flap Approach Procedures.

Received by FAA:	August 29, 1975.
FAA Notice No. 75-35:	Issued September 24, 1975 (40 FR 44256; September 25, 1975).
FAA Hearing:	Held November 5, 1975; (40 FR 44184; September 25, 1975).
Comment Period Closed:	November 26, 1975.

The EPA proposals included three distinct recommendations - (1) an IFR two-segment approach procedure, (2) a VFR two-segment approach procedure, and (3) reduced approach and landing flap procedures. FAA had previously published an IFR two-segment approach proposal on March 26, 1974.

An amendment was published adopting part of the reduced flap proposal and notice of decision not to prescribe regulations based on either of the two-segment approach procedure proposals. In addition, a NPRM regarding a delayed-flap procedure not covered by EPA's proposal was published.

FAR Amendment 91.134:	Issued November 15, 1976 (41 FR 52388; November 29, 1976).
Notice No. 76-26:	Issued November 15, 1976 (41 FR 52396; November 29, 1976).

6. Civil Supersonic Aircraft Noise Regulations.First Proposal.

Received by FAA:	February 27, 1975.
FAA Notice No. 75-15:	Issued March 25, 1975 (40 FR 14093; March 28, 1975).
FAA Hearing:	Held (LA) May 16, 1975 and (Wash., D.C.) May 28, 1975; (40 FR 19034; May 1, 1975).
Comment Period Closed:	May 30, 1975.

The EPA proposed to amend Part 36 to apply subsonic airplane noise limits and test procedures equally to supersonic airplanes.

Second Proposal.

Received by FAA:	January 14, 1976.
FAA Notice No. 76-1:	Issued February 6, 1976 (41 FR 6270; February 12, 1976).
Correction:	Issued February 26, 1976 (41 FR 8797; March 1, 1976).
FAA Hearing:	Held April 5, 1976 (41 FR 6310; February 12, 1976).
Comment Period Closed:	April 13, 1976.

The EPA proposal would supplement Notice No. 75-15 by prohibiting operation of any subsonic or supersonic airplane to or from an airport within the U.S. unless it complies with Part 36 noise limits for subsonic airplanes.

FAA Proposal.

FAA Notice No. 77-23:	Issued October 11, 1977 (42 FR 55176; October 13, 1977).
FAA Hearing:	Held December 15, 1977; (42 FR 59388; November 17, 1977).
FAA Hearing:	Held (Honolulu) January 11, 1978, and (LA) February 27, 1978; (42 FR 62400; December 12, 1977).

This FAA supplementary NPRM reopened previous dockets and proposed noise certification standards for Concorde SSTs, operating rules for SSTs, and sonic boom requirements.

An amendment was published adopting proposals in Notice No. 77-23. In addition a notice of decision not to prescribe further regulations based on EPA proposals (except additional stages of noise level reductions which was deferred at that time) was published.

FAR Amendments 21-47, 36-10, and 91-153:	Issued June 26, 1978 (43 FR 28406; June 29, 1978).
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Notice of Decision:

Issued June 26, 1978
(43 FR 28421; June 29, 1978).

7. Noise Level Reductions.

Received by FAA:

October 1, 1976.

FAA Notice No. 76-22:

Issued October 21, 1976
(41 FR 47358; October 28, 1976).

Received by FAA:

November 29, 1976.

Supp. Notice:

Issued December 6, 1976
(41 FR 53807; December 9, 1976).

FAA Hearing:

Held December 15, 1976
(41 FR 47378; October 28, 1976).

Comment Period Closed:

February 28, 1977.

The EPA proposal would establish three stages of noise level reductions for "large propeller-driven airplanes" and turbojet airplanes based on dates of application for type certification (1975, 1980, and 1985) and any subsequent acoustical changes to those airplanes.

Portions of EPA recommendations based on FAA proposals in Notice Nos. 75-37, 75-37B, and 75-37C (for 1975 applications) were adopted in FAR Amendments 36-7 and 36-8 (42 FR 12360; March 3, 1977; and 43 FR 8722; March 2, 1978 - corrected at 43 FR 44474; September 28, 1978; and 44 FR 3031; January 15, 1979) respectively. Portions of EPA proposal applicable to SSTs were adopted in FAR Amendment 36-10 (43 FR 28406; June 29, 1978), based on FAA proposal in Notice No. 77-23.

Decision on remaining EPA proposals:

Pending.

8. Airport Noise Regulatory Process.

Received by FAA:

October 26, 1976.

FAA Notice No. 76-24:

Issued November 12, 1976
(41 FR 51522; November 22, 1976).

FAA Hearing:

Held January 17, 1977;
(41 FR 51533; November 22, 1976).

Comment Period Closed:

March 24, 1977.

The EPA proposal would establish requirements and standards for airport noise certification, including development, approval, and implementation of airport noise abatement plans.

A pilot project of airport noise monitoring and abatement plan processes have been established at several major airports by the FAA. The study contemplates a two-year project.

Decision on EPA proposal:

Pending.

9. Summary.

EPA has proposed 11 aircraft noise regulations to FAA, over the period from December 6, 1974, through November 29, 1976. To date, FAA has adopted all or parts of five of these proposals, and has not acted formally on two.

It should be noted that, under Section 611 of the Federal Aviation Act, as amended by the Noise Control Act of 1962, the EPA "may request the FAA to review, and report to the EPA on, the advisability of prescribing the regulation originally proposed by the EPA", if the EPA questioned the FAA's action on those proposals. To date, the EPA has not questioned formally any of the FAA's actions taken in response to the EPA's proposals.

Mr. SNYDER. By way of clarification, too, I noticed, I believe in response to Congressman Mineta, that Mr. Elkins indicated what airplanes now meet stage IV, and he indicated the 1011 does; is that correct?

Mr. WESLER. As originally proposed to us at the end of 1976, only one aircraft at that time would comply with the proposed stage IV which EPA had submitted. That was an early model of the DC10-10, a lightweight early model of the DC10-10.

Since that formal proposal, I understand that EPA has made some minor modifications in their proposal, although it has not come to us formally.

Under those minor modifications, I believe they state that two or three other models of aircraft may now meet that proposal.

These are not all-inclusive. For example, to say that the DC-10 meets the standard is somewhat misleading. Certain lightweight models of the DC-10 may meet the standard; not all of the DC-10's meet the standard.

Mr. SNYDER. Well, all of them are meeting it today.

Mr. WESLER. Yes, sir, they are very quiet today.

Mr. SNYDER. But basically, you are not in agreement with EPA on what meets stage IV?

Mr. WESLER. I believe we are, sir, in detail. The generalities which Mr. Elkins used may have been misleading.

Mr. SNYDER. In proposing regulations, does EPA supply you with any information concerning its opinions of the economic and technological issues involved, or are these considerations left totally for the FAA?

Mr. WESLER. Primarily, they are left to us, sir. It is our responsibility to consider the economic reasonableness, technological practicability, the appropriateness to type, and the highest degree of safety, in addition to the protection of public health and welfare.

Under the Noise Control Act of 1972, EPA's mandate is the protection of public health and welfare.

Mr. SNYDER. Only?

Mr. WESLER. Only.

Mr. SNYDER. Public health and welfare ought to be safety, though, hadn't it?

Mr. WESLER. I—yes, sir.

Mr. SNYDER. And I assume that when you reject a proposal, you issue something that says why.

Mr. WESLER. We certainly do, sir. We publish in the Federal Register the reasons for our rejection, if it is in fact a rejection. These are documented quite completely, not only for the Federal Register, for the public's information, but also in our own files and our own evaluations.

Mr. SNYDER. What does FAA have in the way of staff and funds in the noise area?

Mr. WESLER. Our efforts in the noise area basically fall into three general categories. We of course have the responsibility for the regulation of aircraft noise and sonic boom.

We have a second requirement generally in the implementation of the ADAP planning process, and so we have a number of noise people involved in setting guidelines and reviewing local airport plans under the ADAP process.

Our third general category of participation is that in our own facilities, when we are building our own facilities, improving, adding ILS's, that sort of thing. We must also evaluate the environmental consequences of those actions.

For all three of these areas, we have approximately 108 people within the FAA involved in noise control activities. Approximately half of those are located here in Washington at headquarters, dealing in my immediate office, for example, with noise regulations themselves; in our airports office with the grants; in our air traffic facilities office with our own facilities.

Approximately a half are in our field offices across the country, involved in the local implementation of those same items.

Mr. SNYDER. What do you have either in the current fiscal year or budgeted for fiscal year 1980 that you anticipate in the way of grants to deal with the subject?

Mr. WESLER. I will have to answer that for the record, Mr. Snyder. I do not have that information immediately available.

Mr. SNYDER. A little more than \$50,000 or \$65,000?

Mr. WESLER. I believe so, sir.

Mr. SNYDER. I would like for you to submit that figure when you submit the other information, if you would.

Mr. WESLER. Yes, sir.

[The following was received for the record:]

FAA SUBMISSION FOR THE RECORD

In the President's budget proposed for fiscal year 1980, the sum of \$10 million was requested for planning grant projects, which include airport noise and compatible land-use studies.

Mr. SNYDER. I do not want to engender one of these debates that Mr. Elkins does not want, but I am wondering if you could assess for us EPA's overall contribution in helping to formulate existing aviation noise regulations, over and above stating that they have sent you a letter of recommendation.

Mr. WESLER. I believe that they have brought to us a needed advocacy for environmental protection within the Federal Government.

I believe there is a role for an environmental protective advocate. I believe they have brought to us the importance of aircraft noise. I believe we always had that sense, but they have heightened it, I believe.

Mr. SNYDER. Well, Mr. Wesler, I believe when you submit your full response to the first question I guess I asked you in regard to the proposals, and how many were old and how many were new, that it is going to find itself a little bit in variance with that action.

Mr. WESLER. I hope not, sir.

Mr. SNYDER. I think it is pretty obvious from both their testimony and yours, that most of what they have sent down here has been old, warmed-over ideas you already had. If that is true, then they have not contributed very much.

Do you involve the air surgeon in the conduct of your studies concerning health effects associated with exposed aircraft noise?

Mr. WESLER. We do, sir.

Mr. SNYDER. What input does EPA have, medicalwise, when they are sending you recommendations on noise, and which you have indicated their primary responsibility is health?

Mr. WESLER. I believe, sir, that their proposals to us are based on the protection of public health and welfare.

Mr. SNYDER. You told me that they were charged with that under the law, and that is what prompted the question.

Mr. WESLER. Yes, sir.

Mr. SNYDER. I really probably should have asked Mr. Elkins earlier, but it did not occur to me you made that statement.

And so I assume if they are charged with health as part of their liability or charged in making their recommendations to you that they have some medical input into the recommendations that they make, and I was wondering, do you know what that is?

Mr. WESLER. I would prefer, sir, you ask Mr. Elkins that question.

Mr. SNYDER. Mr. Chairman, I ask unanimous consent that that question be submitted to Mr. Elkins so that he can supply it for the record.

Mr. ANDERSON. No objection, so ordered, unless you would like to have him answer it now.

Mr. SNYDER. Well, that is up to you. I did not want to be switching back and forth between witnesses, if that was out of order.

Mr. ANDERSON. I think if Mr. Elkins would like to answer that question right now, it would be all right.

Mr. ELKINS. I would be glad to submit it for the record.

Mr. ANDERSON. He would be glad to submit it for the record.

Mr. SNYDER. I can imagine; it will take a little thought.

[The following was received for the record:]

EPA SUBMISSION

Question. EPA's major role in aviation noise is identification of health and welfare effects of noise and the regulations which are required to prevent these noise effects. How does EPA arrive at these health and welfare conclusions?

Answer. When EPA was given the role of making recommendations to the FAA on aviation noise, the Agency was also directed to prepare two scientific documents to use as the basis for its decisions in all areas of noise control. These two documents are referred to as the "Criteria Document" and the "Levels Document." The "Criteria Document" lays out the scientific evidence regarding the health and welfare effects of noise. The "Levels Document" identifies those levels of noise which are protective of public health and welfare with an adequate margin of safety. In the development of the "Criteria" and "Levels" documents, EPA's scientific staff consulted extensively with a number of experts in the health sciences (M.D.'s, Ph.D.'s) so that these documents would represent the best scientific opinion on the subject at the time of their publication (1973/1974).

Since that time, EPA has been refining the information contained in these documents through consultation with the scientific community, in particular, the National Academy of Sciences which has a standing committee on Hearing and Bioacoustics (CHABA). Assistance of international health experts has also been actively sought and achieved through direct interaction with the World Health Organization and the International Commission on the Biological Effects of Noise.

The Agency is also charged with the coordination of all noise research across the Federal Government and co-sponsors research in the health effects of noise with other agencies. In this way, the Agency is aware of the latest research in the area and is involved in the advancement of knowledge through its own research efforts.

Because of the overall mission of EPA in protection of public health, the Agency's scientific staff has been able to call upon the assistance of high level experts in the area of medical and related health sciences. During the last two years, for instance, the Office of Noise Abatement and Control has used these experts to carefully review and update criteria in such areas as sleep disturbance due to noise. The continuing investigation of noise as a stressor and its non-auditory physiological effects keeps the Agency's scientific staff constantly in touch with cardiovascular physiologists, epidemiologists and related health scientists in order to adequately assess the physical, psychophysical and medical aspects of human response. As a result, the Agency is confident of its ability to make recommendations and decisions based on the latest and best scientific evidence on the effects of noise.

Mr. SNYDER. Do you have any suggestions as to what changes ought to be made to section 7 of the Noise Control Act or any other provision of that statute which would improve the quality of the Federal noise abatement effort in regard to aviation?

Mr. WESLER. I have one suggestion, sir, for a change. This change was made to the Noise Control Act last year by the Quiet Communities Act of 1978. Basically as section 7 was amended last year, it requires us to respond within 90 days to proposals which EPA may in the future submit to us.

I would submit to you, sir, that response in 90 days is really not possible, under all of the analyses, the environmental impact assessments, the inflationary impact assessments, and the other factors and analyses through which we must go.

I would point, for example, as guidelines, to the other parts of the Noise Control Act, section 6 particularly, which allows EPA itself two years to promulgate new product noise standards—2 years after they have identified such products as major noise sources.

I believe to require us to do the same thing in 90 days is somewhat unreasonable.

Mr. SNYDER. If you will prepare the amendment, or somebody down there in your counsel's office, you think ought to be submitted and a statement along that line, if counsel here says it is germane to this bill, I might try to do that for you.

Mr. WESLER. Thank you.

Mr. SNYDER. Anything else that you would suggest?

Mr. WESLER. No, sir.

Mr. SNYDER. Wouldn't it make your job a little easier if we just took them out of this business?

Mr. WESLER. I believe they serve a useful role, sir.

Mr. SNYDER. I figured you would say that. You do not want to get into that debate he was talking about either, do you?

Thank you, Mr. Chairman.

Mr. WESLER. I am sincere in that, Mr. Snyder. I am not being facetious. I do believe they serve a useful role.

Mr. ANDERSON. Mr. Fary?

Mr. FARY. No questions, Mr. Chairman.

Mr. ANDERSON. Are there any further questions?

[No response.]

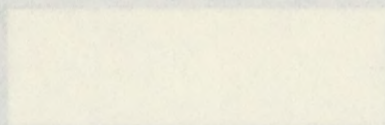
Mr. ANDERSON. I think that concludes it, then, Mr. Wesler. Thank you very much.

Mr. WESLER. Thank you, Mr. Chairman.

Mr. ANDERSON. The meeting is adjourned.

[Whereupon, at 12:41 p.m., the subcommittee was adjourned.]

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